

October 25, 2005  
Project No. 00068-005

Ms. Joan Fleck  
North Coast Water Board  
5550 Skylane Boulevard, Suite A  
Santa Rosa, California 95403

**RE: Groundwater Monitoring Report, Third Quarter 2005**  
Former Cloudburst Car Wash  
1322 Fourth Street, Santa Rosa, California

Dear Ms. Fleck:

ENSR Corporation (ENSR) is presenting this report on behalf of Diversified Enterprises, Inc. (Diversified) to document the results of the quarterly groundwater monitoring conducted on September 6, 2005, at the former Cloudburst Car Wash (Cloudburst) located at 1322 Fourth Street, Santa Rosa, California (Subject Property) (**Figures 1 and 2**). Groundwater monitoring was performed jointly with TRC for the Tosco site (Unocal) at 1311 Fourth Street on September 6, 2005. In the past, joint monitoring included the B&S Auto site (formerly A&F O'Connor) at 1333 Fourth Street, however, this quarter monitoring was not conducted at the B&S Auto site. **Figure 3** depicts the well locations for the three Fourth Street sites.

## BACKGROUND

The Cloudburst site is located on the southwest corner of the intersection of Fourth and Junior Streets in a commercial and residential area of Santa Rosa, Sonoma County, California. Cloudburst began retail fuel sales operations with three new 10,000-gallon, single-wall, steel underground storage tanks (USTs) in 1971.

The operator of the Cloudburst site, Diversified, removed the three USTs in March 1991, following the discontinuation of retail fuel sales at the car wash. Since August 1991, Diversified has installed fourteen groundwater monitoring wells on and off the site and operated an air sparging/soil vapor extraction system on site. The work was performed in compliance with state regulations pertaining to the investigation and cleanup of leaking USTs and with the North Coast Water Board (NCWB) approval. The site is currently occupied by a single-story office building. Locations of existing and destroyed monitoring wells and former USTs are shown on **Figure 2**. Additional site history is included as **Appendix 1**.

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## Groundwater Monitoring

On September 6, 2005, the depth to groundwater was measured in monitoring wells MW-1, MW-3, and MW-6 through MW-14. Groundwater elevation measurements were made to the nearest 0.01 foot from the surveyed top-of-casing elevations. Depth to groundwater ranged from 19.54 to 23.35 feet bgs. Light non-aqueous phase liquid (LNAPL) was observed in well MW-7 (0.03 foot). A sheen and/or petroleum odor was observed for monitoring wells MW-1, MW-3, MW-6, and MW-8.

Santa Rosa Creek is located approximately 800 feet southeast of the Cloudburst site and flows toward the southwest. The historic groundwater elevation data indicate that the direction of groundwater flow varies from southeasterly to southwesterly. Groundwater elevations in monitoring wells MW-1, MW-3, and MW-6 have generally been lower than in downgradient wells MW-8 and MW-11, indicating a localized water table depression.

Groundwater elevations in the Cloudburst wells decreased slightly since the previous monitoring event in June 2005. At the time of the third quarter monitoring event, the hydraulic gradient in the vicinity of the Cloudburst site was approximately 0.025 feet per foot (ft/ft) to the southeast.

Groundwater level data, measurements of LNAPL thickness, and periods of LNAPL skimmer use are summarized in **Table 1**. Historical groundwater elevations are presented graphically on **Figure 4**, and a potentiometric surface map showing third-quarter groundwater elevation contours is included as **Figure 5**. The fieldwork for the groundwater monitoring documented in this report was conducted according to the standard operating procedures (SOPs) included in **Appendix 2**. Groundwater monitoring field documentation sheets are presented in **Appendix 3**.

## Groundwater Sampling and Analysis

Groundwater samples were collected on September 6, 2005, from monitoring wells MW-1, MW-3, MW-6, and MW-8 through MW-14. Samples were submitted under chain-of-custody documentation to California Laboratory Services, a state-certified analytical laboratory. Groundwater samples were analyzed for the presence of total petroleum hydrocarbons as gasoline (TPH-g) and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8015M/8021B, and oxygenated volatile organics by EPA Method 8260B.

The following is a summary of groundwater sampling and analysis results:

- The highest concentration of TPH-g in the groundwater was in monitoring well MW-1 at 25,000 µg/L. TPH-g was not detected in MW-9 or MW-10.

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- The highest concentration of benzene in the groundwater was in monitoring well MW-13 at 4,700 µg/L. Benzene was not detected in MW-9, MW-10, or MW-11.
- The highest concentration of methyl tert-butyl ether (MTBE) in the groundwater was in monitoring well MW-13 at 1,300 µg/L. MTBE was not detected in MW-10 or MW-12. Since the Cloudburst USTs were removed in 1991, the continued presence of MTBE in groundwater samples points to another release, which post-dates the termination of fuel storage at the Cloudburst site. The suspected source is B&S Auto, which is hydraulically upgradient of the Cloudburst site.

Analytical results for the Cloudburst site are summarized in **Table 2**. The analytical report and chain-of-custody documentation are included in **Appendix 4**. The distribution of TPH-g, benzene, and MTBE in the wells sampled at the Cloudburst and Unocal sites is shown on **Figure 6**. The distribution of impacts and groundwater flow gradient suggest continued migration from the B&S Auto site.

## CONCLUSIONS AND RECOMMENDATIONS

Since the June 2005 monitoring event, water level elevations decreased in the wells by a maximum of 4.4 feet. Concentrations of TPH-g:

- decreased in monitoring well MW-13;
- increased in monitoring wells MW-1, MW-3, MW-6, MW-8, MW-11, MW-12, and MW-14; and
- remained unchanged in monitoring wells MW-9 (not detected) and MW-10 (not detected).

Benzene concentrations:

- decreased in monitoring wells MW-6 and MW-13;
- increased in monitoring wells MW-1, MW-3, MW-8, MW-12, and MW-14; and
- remained unchanged (not detected) in monitoring wells MW-9, MW-10, and MW-11.

Concentrations of MTBE:

- decreased in monitoring wells MW-1, MW-6, and MW-14;
- increased in monitoring wells MW-3, MW-8, and MW-11; and
- remained unchanged in monitoring wells MW-9 (1.0 µg/L), MW-10 (not detected), MW-12 (not detected), and MW-13 (1,300 µg/L).

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For wells showing increased concentrations of TPH-g, benzene, and MTBE since the prior quarter, the concentration ranges observed are consistent with concentrations observed through the historic groundwater monitoring period.

ENSR recommends continued quarterly joint groundwater monitoring events with the Unocal and B&S Auto sites. In a letter dated July 9, 2004, ENSR notified the NCWB of Diversified's willingness to consider participating in the Commingled Plume Account with the Unocal and B&S Auto sites in order to provide a joint effort to remediate groundwater impacts associated with the respective sites. Discussions among the respective parties commenced on September 29, 2004, with additional discussions held on December 9, 2004. A technical report that verifies the existence of a commingled plume underneath Fourth Street was submitted July 26, 2005. ENSR and Diversified will continue to pursue further discussions and negotiations between the potential Commingled Plume Account participants in an effort to reach an agreement on a cooperative approach.

Additionally, to address the NCWB request, ENSR has been in communication with off-site property owners in an effort to locate a suitable location for an off-site monitoring well. At the time of this report, the access agreement between a property owner and Diversified is under review by the property owner.

## LIMITATIONS

ENSR has performed its services in a manner consistent with the standards of care and skill ordinarily exercised by members of the profession practicing under similar conditions in the geographic vicinity and at the time the services were performed. No warranty or guarantee is expressed or implied.

If you have any questions or comments, please contact Jennifer Johnston at (916) 288-4312 or Mark Capps at (916) 288-4305.

Sincerely,  
**ENSR Corporation**



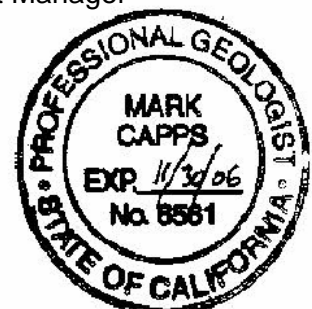
Jennifer Johnston  
Project Manager



Mark Capps, PG 6561  
Senior Project Manager

## Tables:

1. Groundwater Level Data
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1. Site History
2. Groundwater Monitoring Standard Operating Procedures
3. Groundwater Monitoring – Field Documentation
4. Groundwater Monitoring – Laboratory Analytical Report and Chain of Custody Documentation

## TABLES

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-1	09/10/91	180.33 <sup>2</sup>	24.29	--	156.04	--	
	02/05/92		22.82	22.81	157.52*	0.01	
	05/29/92		21.69	21.66	158.66*	0.03	
	08/27/92		---	---	---	---	LNAPL; skimmer installed
	10/28/92		24.23	24.22	156.11*	0.01	skimmer installed
	11/12/92	180.34 <sup>3</sup>	23.49	23.48	156.86*	0.01	skimmer installed
	12/14/92		20.59	20.58	159.76*	0.01	skimmer installed
	01/06/93		19.90	---	160.44	---	skimmer installed
	02/10/93		18.82	---	161.52	---	skimmer installed
	03/10/93		17.44	17.43	162.90*	0.01	skimmer installed
	04/26/93		19.45	19.37	160.95*	0.08	skimmer installed
	05/19/93		20.56	20.51	159.81*	0.05	skimmer installed
	06/25/93		21.43	21.32	158.99*	0.11	skimmer installed
	07/19/93		21.89	21.76	158.55*	0.13	skimmer installed
	08/27/93		23.24	23.12	157.19*	0.12	skimmer installed
	10/26/93		23.03	22.98	157.35*	0.05	skimmer installed
	11/23/93		23.59	23.46	156.85*	0.13	skimmer installed
	12/28/93		21.43	21.42	158.92*	0.01	skimmer installed
	01/28/94		20.80	---	159.54	---	skimmer installed
	02/23/94		19.06	19.05	161.29*	0.01	skimmer installed
	03/10/94		21.48	21.47	158.87*	0.01	skimmer installed
	04/08/94		21.36	21.34	159.00*	0.02	
	05/11/94		21.76	---	158.58	---	
	06/09/94		22.46	---	157.88	---	
	09/14/94		24.04	24.02	156.32*	0.02	
	10/26/94		24.02	24.01	156.33*	0.01	
	11/21/94		21.90	---	158.44	---	
	12/06/94		21.40	---	158.94	---	
	03/09/95		14.78	---	165.56	---	
	06/13/95		19.21	19.20	161.14*	0.01	
	09/14/95	180.59 <sup>4</sup>	22.83	---	157.76	---	
	03/26/96		16.36	---	164.23	---	
	06/24/96		20.10	---	160.49	---	
	12/26/96		---	---	---	---	Under water
	06/24/97		21.90	---	158.69	---	
	12/16/97		19.10	---	161.49	---	
	06/15/98		18.69	---	161.90	---	
	01/06/99		21.41	---	159.18	---	
	07/12/99		21.57	---	159.02	---	
	12/20/99		22.63	---	157.60	---	
	12/14/00		22.82	---	157.77	---	
	03/14/01		19.04	---	161.55	---	
	06/12/02		22.37	22.34	158.24*	0.03	
	09/11/02		23.97	23.85	156.71*	0.12	
	12/11/02		23.43	23.40	157.18*	0.03	
	03/17/03		18.98	18.93	161.65*	0.05	
	06/17/03		19.81	19.80	160.79*	0.01	
	09/15/03		23.80	---	156.79	---	Sheen, Strong Odor
	12/15/03		21.65	---	158.94	---	Sheen
	03/16/04		19.83	19.82	160.76	0.01	
	06/14/04		22.94	---	157.65	---	Sheen, Strong Odor
	09/14/04	180.58	24.25	---	156.33	---	Sheen, Strong Odor
	12/14/04		21.25	---	159.33	---	Sheen, Strong Odor
	03/01/05		18.70	---	161.88	---	sheen
	06/07/05		19.60	---	160.98	---	sheen
	09/06/05		22.58	---	158.00	---	sheen

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-2	09/10/91	180.81 <sup>2</sup>	24.4	--	156.41	--	
	02/05/92		22.92	--	157.89	--	
	05/29/92		21.84	21.54	159.20*	0.3	
	08/27/92		---	---	---	---	LNAPL; skimmer installed
	10/28/92		24.70	24.68	156.13*	0.02	skimmer installed
	11/12/92	180.85 <sup>3</sup>	25.18	23.50	156.93*	1.68	skimmer installed
	12/14/92		21.06	20.17	160.46*	0.89	skimmer installed
	01/06/93		19.56	19.55	161.30*	0.01	skimmer installed
	02/10/93		18.64	18.63	162.22*	0.01	skimmer installed
	03/10/93		16.87	16.86	163.99*	0.01	skimmer installed
	04/26/93		19.78	19.68	161.14*	0.10	skimmer installed
	05/19/93		21.10	20.86	159.93*	0.24	skimmer installed
	06/25/93		21.86	21.53	159.24*	0.33	skimmer installed
	07/19/93		22.33	22.25	158.58*	0.08	skimmer installed
	08/27/93		22.95	22.93	157.92*	0.02	skimmer installed
	10/26/93		22.54	22.53	158.32*	0.01	skimmer installed
	11/23/93		23.15	23.14	157.71*	0.01	skimmer installed
	12/28/93		20.99	20.98	159.87*	0.01	skimmer installed
	01/28/94		20.76	---	160.09	---	skimmer installed
	02/23/94		18.62	18.61	162.24*	0.02	skimmer installed
	03/10/94		21.04	21.03	159.82*	0.01	skimmer installed
	04/08/94		21.60	21.57	159.27*	0.03	
	05/11/94		21.45	---	159.40	---	
	06/09/94		22.13	---	158.72	---	
	09/14/94		23.81	23.78	157.06*	0.03	
	10/26/94		23.54	23.43	157.39*	0.11	
	11/21/94		21.43	---	159.42	---	
	12/06/94		20.12	20.11	160.74*	0.01	
	03/09/95		14.85	---	166.00	---	
	06/13/95		19.15	---	161.70	---	
	09/14/95	181.12 <sup>4</sup>	21.98	---	159.14	---	
	03/26/96		16.34	---	164.78	---	
	06/24/96		19.36	---	161.76	---	
	12/26/96		---	---	---	---	Not Located
	06/24/97		---	---	---	---	Not Located
	12/16/97		---	---	---	---	Not Located
	06/15/98		---	---	---	---	Not Located
	01/06/99		---	---	---	---	Not Located
	07/12/99		---	---	---	---	Damaged
	12/20/99		---	---	---	---	Damaged
	12/14/00		---	---	---	---	Destroyed 2/9/00



**TABLE 1**  
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**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-3	09/10/91	180.83 <sup>2</sup>	24.32	--	156.51	--	
	02/05/92		23.11	--	157.72	--	
	05/29/92		21.72	21.71	159.12*	0.01	
	08/27/92		---	---	---	---	LNAPL; skimmer installed
	10/28/92		26.45	24.08	156.16*	2.37	skimmer installed
	11/12/92	180.82 <sup>3</sup>	25.24	23.09	157.19*	2.15	skimmer installed
	12/14/92		21.34	20.56	160.07*	0.78	skimmer installed
	01/06/93		19.56	19.55	161.27*	0.01	skimmer installed
	02/10/93		19.39	19.38	161.43*	0.01	skimmer installed
	03/10/93		17.53	17.52	163.30*	0.01	skimmer installed
	04/26/93		20.17	20.16	160.66*	0.01	skimmer installed
	05/19/93		21.12	21.10	159.70*	0.02	skimmer installed
	06/25/93		22.05	21.98	158.82*	0.07	skimmer installed
	07/19/93		22.50	22.43	158.37*	0.07	skimmer installed
	08/27/93		23.20	23.18	157.63*	0.02	skimmer installed
	10/26/93		22.95	22.77	158.01*	0.18	skimmer installed
	11/23/93		23.61	23.28	157.46*	0.33	skimmer installed
	12/28/93		21.29	21.27	159.54*	0.02	skimmer installed
	01/28/94		20.90	---	159.92	---	skimmer installed
	02/23/94		19.86	---	160.96	---	skimmer installed
	03/10/94		---	---	---	---	skimmer installed
	04/08/94		21.54	21.52	159.30*	0.02	
	05/11/94		21.67	---	159.15	---	
	06/09/94		22.39	---	158.43	---	
	09/14/94		24.40	23.75	156.91*	0.65	
	10/26/94		23.44	22.72	157.92*	0.72	
	11/21/94		21.50	---	159.32	---	
	12/06/94		21.10	20.59	160.10*	0.51	
	03/09/95		15.57	15.17	165.55*	0.40	
	06/13/95		20.24	19.92	160.82*	0.32	
	09/14/95	180.85 <sup>4</sup>	22.25	---	158.60	---	
	03/26/96		16.36	16.35	164.50*	0.01	
	06/24/96		19.81	---	161.04	---	
	12/26/96		17.94	17.88	162.96*	0.06	
	06/24/97		21.23	---	159.62	---	
	12/16/97		19.02	18.89	161.93*	0.13	
	06/15/98		19.36	19.30	161.54*	0.06	
	01/06/99		21.69	21.67	159.18*	0.02	
	07/12/99		21.67	---	159.18	---	
	12/20/99		22.71	---	158.14	---	
	12/14/00		23.23	23.22	157.63*	0.01	
	03/14/01		18.82	18.78	162.06*	0.04	
	06/12/02		22.28	22.22	158.62*	0.06	
	09/11/02		23.70	23.67	157.17*	0.03	
	12/11/02		22.88	22.84	158.00*	0.04	
	03/17/03		18.42	18.39	162.45*	0.03	
	06/17/03		19.36	19.35	161.50*	0.01	
	09/15/03		23.40	23.39	157.46*	0.01	
	12/15/03		21.22	21.20	159.65*	0.02	
	03/16/04		18.18	18.16	162.67	0.02	
	06/14/04		22.40	---	158.45	---	sheen, odor
	09/14/04	180.82	23.72	---	157.10	---	sheen
	12/14/04		20.55	---	160.27	---	Heavy sheen, odor
	03/01/05		17.55	---	163.27	---	sheen
	06/07/05		19.25	---	161.57	---	sheen
	09/06/05		22.58	---	158.24	---	sheen

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**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-4	05/29/92	181.93 <sup>2</sup>	22.23	--	159.70	--	
	08/27/92		23.97	---	157.96	---	
	10/28/92		24.16	24.14	157.79*	0.02	
	11/12/92	181.94 <sup>3</sup>	23.22	23.21	158.73*	0.01	
	12/14/92		20.89	---	161.05	---	
	01/06/93		20.31	---	161.63	---	
	02/10/93		18.70	---	163.24	---	
	03/10/93		18.20	---	163.74	---	
	04/26/93		20.84	---	161.10	---	
	05/19/93		21.75	---	160.19	---	
	06/25/93		---	---	---	---	
	07/19/93		22.65	---	159.29	---	
	08/27/93		23.43	---	158.51	---	
	10/26/93		23.29	---	158.65	---	
	11/23/93		23.89	---	158.05	---	
	12/28/93		22.12	---	159.82	---	
	01/28/94		21.16	---	160.78	---	
	02/23/94		19.60	---	162.34	---	
	03/10/94		20.56	---	161.38	---	
	04/08/94		22.10	---	159.84	---	
	05/11/94		22.17	---	159.77	---	
	06/09/94		22.91	---	159.03	---	
	09/14/94		24.25	---	157.69	---	
	10/26/94		24.12	---	157.82	---	
	11/21/94		22.35	---	159.59	---	
	12/06/94		21.37	---	160.57	---	
	03/09/95		15.64	---	166.30	---	
	06/13/95		20.73	---	161.21	---	
	09/14/95	181.93 <sup>4</sup>	23.14	---	158.79	---	
	03/26/96		17.38	---	164.55	---	
	06/24/96		21.03	---	160.90	---	
	12/26/96		19.01	---	162.92	---	
	06/24/97		22.56	---	159.37	---	
	12/16/97		19.67	---	162.26	---	
	06/15/98		19.88	---	162.05	---	
	01/06/99		22.21	---	159.72	---	
	07/12/99		22.35	---	159.58	---	
	12/20/99		22.94	---	158.99	---	
	12/14/00		---	---	---	---	Destroyed 2/9/00

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-5	05/29/92	182.33 <sup>2</sup>	22.17	--	160.16	--	
	08/27/92		---	---	---	---	LNAPL; skimmer installed
	10/28/92		24.79	24.10	158.23*	0.69	skimmer installed
	11/12/92	182.31 <sup>3</sup>	23.42	22.86	159.31*	0.56	skimmer installed
	12/14/92		20.79	20.56	161.69*	0.23	skimmer installed
	01/06/93		20.16	20.15	162.15*	0.01	skimmer installed
	02/10/93		18.82	18.81	163.49*	0.01	skimmer installed
	03/10/93		18.23	18.22	164.09*	0.01	skimmer installed
	04/26/93		21.03	21.02	161.29*	0.01	skimmer installed
	05/19/93		21.82	21.77	160.53*	0.05	skimmer installed
	06/25/93		22.06	---	160.25	---	skimmer installed
	07/19/93		22.65	22.64	159.67*	0.01	skimmer installed
	08/27/93		---	---	---	---	skimmer installed
	10/26/93		23.61	23.31	158.93*	0.30	skimmer installed
	11/23/93		24.56	23.80	158.32*	0.76	skimmer installed
	12/28/93		22.43	21.94	160.25*	0.49	skimmer installed
	01/28/94		20.87	---	161.44	---	skimmer installed
	02/23/94		19.37	19.32	162.98*	0.01	skimmer installed
	03/10/94		20.74	20.73	161.58*	0.01	skimmer installed
	04/08/94		21.99	21.97	160.34*	0.02	
	05/11/94		21.98	---	160.33	---	
	06/09/94		22.79	---	159.52	---	
	09/14/94		23.99	23.97	158.34*	0.02	
	10/26/94		24.56	23.74	158.37*	0.82	
	11/21/94		21.94	---	160.37	---	
	12/06/94		21.00	20.97	161.33*	0.03	
	03/09/95		15.80	---	166.51	---	
	06/13/95		20.57	20.56	161.75*	0.01	
	09/14/95	182.19 <sup>4</sup>	22.94	22.93	159.26*	0.01	
	03/26/96		17.80	---	164.39	---	
	06/24/96		20.83	---	161.36	---	
	12/26/96		19.11	---	163.08	---	
	06/24/97		---	---	---	---	Not Located
	12/16/97		---	---	---	---	Not Located
	06/15/98		---	---	---	---	Not Located
	01/06/99		---	---	---	---	Not Located
	07/13/99		22.25	---	159.94	---	
	12/20/99		22.86	---	159.33	---	
	12/14/00		---	---	---	---	Destroyed 2/9/00

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-6	05/29/92	181.07 <sup>2</sup>	21.81	--	159.26	--	
	08/27/92		23.84	---	157.23	---	skimmer installed
	10/28/92		25.15	23.44	157.20*	1.71	skimmer installed
	11/12/92	181.07 <sup>3</sup>	24.94	22.53	157.94*	2.41	skimmer installed
	12/14/92		22.42	20.34	160.21	2.08	skimmer installed
	01/06/93		20.72	20.10	160.82	0.62	skimmer installed
	02/10/93		18.42	18.12	162.88	0.30	skimmer installed
	03/10/93		17.37	17.36	163.71*	0.01	skimmer installed
	04/26/93		20.44	20.30	160.73*	0.14	skimmer installed
	05/19/93		21.36	21.12	159.89*	0.24	skimmer installed
	06/25/93		22.43	22.08	158.90*	0.35	skimmer installed
	07/19/93		22.54	22.53	158.54*	0.01	skimmer installed
	08/27/93		23.44	23.41	157.65*	0.03	skimmer installed
	10/26/93		23.11	23.10	157.97*	0.01	skimmer installed
	11/23/93		25.54	25.53	155.54*	0.01	skimmer installed
	12/28/93		21.47	21.29	159.73*	0.18	skimmer installed
	01/28/94		20.37	20.23	160.81*	0.14	skimmer installed
	02/23/94		18.33	18.30	162.76*	0.01	skimmer installed
	03/10/94		20.75	20.74	160.33*	0.01	skimmer installed
	04/08/94		21.48	21.42	159.64*	0.06	
	05/11/94		21.77	21.72	159.34*	0.05	
	06/09/94		22.60	22.50	158.55*	0.10	
	09/14/94		23.68	23.65	157.41*	0.03	
	10/26/94		23.72	23.61	157.43*	0.11	
	11/21/94		21.56	21.54	159.53*	0.02	
	12/06/94		20.23	20.21	160.86*	0.02	
	03/09/95		15.20	---	165.87	---	
	06/13/95		20.12	---	160.95	---	
	09/14/95	181.05 <sup>4</sup>	22.68	22.67	158.38*	0.01	
	03/26/96		16.46	---	164.59	---	
	06/24/96		19.99	---	161.06	---	
	12/26/96		18.46	18.45	162.60*	0.01	
	06/24/97		22.17	---	158.88	---	
	12/16/97		18.89	18.88	162.17*	0.01	
	06/15/98		19.14	---	161.91	---	
	01/06/99		21.58	---	159.47	---	
	07/12/99		21.79	---	159.26	---	
	12/20/99		22.38	---	158.67	---	
	12/14/00		22.37	---	158.68	---	
	03/14/01		18.61	---	162.44	---	
	06/12/02		19.67	19.28	161.67*	0.39	
	09/11/02		23.61	23.60	157.45*	0.01	
	12/11/02		23.18	---	157.87	---	
	03/17/03		18.81	---	162.24	---	
	06/17/03		19.21	---	161.84	---	
	09/15/03		23.51	---	157.54	---	
	12/15/03		21.35	---	159.70	---	Sheen
	03/16/04		18.36	---	162.69	---	
	06/14/04		22.78	---	158.27	---	sheen, odor
	09/14/04	181.06	24.10	---	156.96	---	sheen
	12/14/04		21.52	---	159.54	---	Sheen, Strong Odor
	03/01/05		18.40	---	162.66	---	sheen
	06/07/05		19.84	---	161.22	---	sheen
	09/06/05		22.96	---	158.10	---	sheen

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-7	05/29/92	180.16 <sup>2</sup>	21.45	--	158.71	--	
	08/27/92		23.38	---	156.78	---	skimmer in place
	10/28/92		23.62	---	156.54	---	skimmer in place
	11/12/92	180.14 <sup>3</sup>	22.57	---	157.57	---	skimmer in place
	12/14/92		19.55	---	160.59	---	skimmer in place
	01/06/93		18.81	---	161.33	---	skimmer in place
	02/10/93		17.55	15.15	164.40	2.40	skimmer in place
	03/10/93		16.18	14.32	165.36*	1.86	skimmer in place
	04/26/93		20.25	17.80	161.73*	2.45	skimmer in place
	05/19/93		20.91	19.97	159.94*	0.94	skimmer in place
	06/25/93		21.47	20.55	159.36*	0.92	skimmer in place
	07/19/93		21.90	21.56	158.50*	0.34	skimmer in place
	08/27/93		22.43	22.41	157.73*	0.02	skimmer in place
	10/26/93		22.07	22.06	158.08*	0.01	skimmer in place
	11/23/93		22.69	---	157.45	---	skimmer in place
	12/28/93		19.89	---	160.25	---	skimmer in place
	01/28/94		18.83	---	161.31	---	skimmer in place
	02/23/94		17.11	---	163.03	---	skimmer in place
	03/10/94		18.72	---	161.42	---	skimmer in place
	04/08/94		20.45	19.89	160.11*	0.56	
	05/11/94		20.89	20.34	159.66*	0.55	
	06/09/94		21.62	21.12	158.90*	0.50	
	09/14/94		22.97	22.72	157.36*	0.25	
	10/26/94		22.71	22.53	157.57*	0.18	
	11/21/94		---	---	---	---	
	12/06/94		20.06	20.05	160.09*	0.01	
	03/09/95		13.86	---	166.28	---	
	06/13/95		19.55	19.32	160.76*	0.23	
	09/14/95	180.13 <sup>4</sup>	22.25	21.90	158.14*	0.35	
	03/26/96		14.62	---	165.51	---	
	06/24/99		18.26	18.10	161.99*	0.16	
	12/26/96		16.53	16.52	163.61*	0.01	
	06/24/97		---	---	---	---	Not accessible
	12/16/97		16.89	16.86	163.27*	0.03	
	06/15/98		16.69	16.52	163.57*	0.17	
	01/06/99		19.54	19.38	160.71*	0.16	
	07/12/99		---	---	---	---	
	12/20/99		20.46	---	159.67	---	
	12/14/00		19.99	19.92	160.19*	0.07	
	03/14/01		15.41	---	164.72	---	
	06/12/02		---	---	---	---	
	09/11/02		21.55	21.17	158.87*	0.38	
	12/11/02		21.02	20.84	159.25*	0.18	
	03/17/03		17.70	17.59	162.51*	0.11	
	06/17/03		19.20	19.16	160.96*	0.04	
	09/15/03		20.85	20.82	159.30*	0.03	
	12/15/03		18.33	18.32	161.81*	0.01	
	03/16/04		15.43	15.40	164.70	0.03	
	06/14/04		19.80	19.61	160.48*	0.19	
	09/14/04	180.13	21.66	21.54	158.56*	0.12	
	12/14/04		18.60	---	161.53	---	strong odor
	03/01/05		15.28	---	164.85	---	sheen
	06/07/05		16.72	---	163.41	---	sheen
	09/06/05		19.54	19.51	160.61*	0.03	

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-8	05/29/92	179.64 <sup>2</sup>	18.64	--	161	--	
	08/27/92		21.12	---	158.52	---	
	10/28/92		21.79	---	157.85	---	
	11/12/92	179.63 <sup>3</sup>	20.67	---	158.96	---	
	12/14/92		17.84	---	161.79	---	
	01/06/93		---	---	---	---	
	02/10/93		15.07	---	164.56	---	
	03/10/93		14.45	---	165.18	---	
	04/26/93		16.99	---	162.64	---	
	05/19/93		18.63	---	161.00	---	
	06/25/93		---	---	---	---	
	07/19/93		19.79	---	159.84	---	
	08/27/93		20.39	---	159.24	---	
	10/26/93		20.73	---	158.90	---	
	11/23/93		21.37	---	158.26	---	
	12/28/93		19.27	---	160.36	---	
	01/28/94		16.27	---	163.36	---	
	02/23/94		16.44	---	163.19	---	
	03/10/94		18.05	---	161.58	---	
	04/08/94		13.14	---	166.49	---	
	05/11/94		19.33	---	160.30	---	
	06/09/94		20.11	---	159.52	---	
	09/14/94		21.67	---	157.96	---	
	10/26/94		21.77	---	157.86	---	
	11/21/94		18.57	---	161.06	---	
	12/06/94		18.00	---	161.63	---	
	03/09/95		14.72	---	164.91	---	
	06/13/95		17.26	---	162.37	---	
	09/14/95	179.62 <sup>4</sup>	20.45	---	159.17	---	
	03/26/96		13.29	---	166.33	---	
	06/24/96		17.42	---	162.20	---	
	12/26/96		---	---	---	---	Under water
	06/24/97		19.90	---	159.72	---	
	12/16/97		16.46	---	163.16	---	
	06/15/98		16.51	---	163.11	---	
	01/06/99		19.42	---	160.20	---	
	07/12/99		19.49	---	160.13	---	
	12/20/99		20.37	---	159.25	---	
	12/14/00		20.20	---	159.42	---	
	03/14/01		15.98	---	163.64	---	
	06/12/02		19.43	---	160.19	---	
	09/11/02		21.28	---	158.34	---	
	12/11/02		20.50	---	159.12	---	
	03/17/03		14.97	---	164.65	---	
	06/17/03		18.35	---	161.27	---	
	09/15/03		20.80	---	158.82	---	
	12/15/03		18.29	---	161.33	---	
	03/16/04		15.40	---	164.22	---	
	06/14/04		19.75	---	159.87	---	strong odor
	09/14/04	179.64	21.54	---	158.10	---	strong odor
	12/14/04		18.38	---	161.26	---	strong odor
	03/01/05		17.14	---	162.50	---	slight odor
	06/07/05		17.88	---	161.76	---	slight odor
	09/06/05		20.01	---	159.63	---	slight odor

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-9	08/27/93	182.37 <sup>2</sup>	23.22	---	159.15	---	
	10/26/93		23.10	---	159.27	---	
	11/23/93		23.66	---	158.71	---	
	12/28/93		22.12	---	160.25	---	
	01/28/94		21.10	---	161.27	---	
	02/23/94		19.89	---	162.48	---	
	03/10/94		21.41	---	160.96	---	
	04/08/94		22.16	---	160.21	---	
	05/11/94		22.07	---	160.30	---	
	06/09/94		22.72	---	159.65	---	
	09/14/94		23.79	---	158.58	---	
	10/26/94		23.74	---	158.63	---	
	11/21/94		---	---	---	---	
	12/06/94		21.30	---	161.07	---	
	03/09/95		17.14	---	165.23	---	
	06/13/95		20.93	---	161.44	---	
	09/14/95	182.36 <sup>4</sup>	22.91	---	159.45	---	
	03/26/96		18.95	---	163.41	---	
	06/24/96		21.33	---	161.03	---	
	12/26/96		19.99	---	162.37	---	
	06/24/97		22.54	---	159.82	---	
	12/16/79		20.25	---	162.11	---	
	06/15/98		---	---	---	---	
	01/06/99		22.39	---	159.97	---	
	07/12/99		22.28	---	160.08	---	
	12/20/99		22.88	---	159.48	---	
	12/14/00		22.88	---	159.48	---	
	03/14/01		20.05	---	162.31	---	
	06/12/02		22.55	---	159.81	---	
	09/11/02		23.61	---	158.75	---	
	12/11/02		23.34	---	159.02	---	
	03/17/03		19.92	---	162.44	---	
	06/17/03		21.95	---	160.41	---	
	09/15/03		23.35	---	159.01	---	
	12/15/03		21.50	---	160.86	---	
	03/16/04		19.71	---	162.65	---	
	06/14/04	182.34	22.72	---	159.64	---	
	09/14/04		23.85	---	158.49	---	
	12/14/04		21.70	---	160.64	---	
	03/01/05		19.41	---	162.93	---	
	06/07/05		20.80	---	161.54	---	
	09/06/05		23.10	---	159.24	---	

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-10	09/14/94	182.83 <sup>2</sup>	25.41	---	157.42	---	
	10/26/94		25.65	---	157.18	---	
	11/21/94		---	---	---	---	
	12/06/94		21.19	---	161.64	---	
	03/09/95		13.03	---	169.80	---	
	06/13/95		21.10	---	161.73	---	
	09/14/95	182.83 <sup>4</sup>	24.52	---	158.31	---	
	03/26/96		16.58	---	166.25	---	
	06/24/96		21.45	---	161.38	---	
	12/26/96		18.28	---	164.55	---	
	06/24/97		23.52	---	159.31	---	
	12/16/97		18.65	---	164.18	---	
	06/15/98		19.55	---	163.28	---	
	01/06/99		22.39	---	160.44	---	
	07/12/99		22.80	---	160.03	---	
	12/20/99		23.56	---	159.27	---	
	12/14/00		22.04	---	160.79	---	
	03/14/01		17.53	---	165.30	---	
	06/12/02		22.84	---	159.99	---	
	09/11/02		25.10	---	157.73	---	
	12/11/02		23.43	---	159.40	---	
	03/17/03		17.91	---	164.92	---	
	06/17/03		21.24	---	161.59	---	
	09/15/03		24.41	---	158.42	---	
	12/15/03		19.90	---	162.93	---	
	03/16/04		17.01	---	165.82	---	
	06/14/04		22.81	---	160.02	---	
	09/14/04	182.76	25.01	---	157.75	---	
	12/14/04		20.81	---	161.95	---	
	03/01/05		16.46	---	166.30	---	
	06/07/05		18.92	---	163.84	---	
	09/06/05		23.35	---	159.41	---	



**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-11	09/14/94	179.92 <sup>2</sup>	21.94	---	157.98	---	
	10/26/94		21.98	---	157.94	---	
	11/21/94		---	---	---	---	
	12/06/94		19.28	---	160.64	---	
	03/09/95		15.38	---	164.54	---	
	06/13/95		18.47	---	161.45	---	
	09/14/95	179.79 <sup>4</sup>	21.05	---	158.74	---	
	03/26/96		15.77	---	164.02	---	
	06/24/96		18.87	---	160.92	---	
	12/26/96		17.78	---	162.01	---	
	06/24/97		20.42	---	159.37	---	
	12/16/97		18.08	---	161.71	---	
	06/15/98		18.08	---	161.71	---	
	01/06/99		20.16	---	159.63	---	
	07/12/99		20.20	---	159.59	---	
	12/20/99		20.90	---	158.89	---	
	12/14/00		20.99	---	158.80	---	
	03/14/01		17.60	---	162.19	---	
	06/12/02		20.29	---	159.50	---	
	09/11/02		21.70	---	158.09	---	
	12/11/02		21.44	---	158.35	---	
	03/17/03		17.41	---	162.38	---	
	06/17/03		19.35	---	160.44	---	
	09/15/03		21.44	---	158.35	---	
	12/15/03		19.56	---	160.23	---	
	03/16/04		16.68	---	163.11	---	
	06/14/04		20.52	---	159.27	---	
	09/14/04	179.77	22.08	---	157.69	---	
	12/14/04		19.59	---	160.18	---	
	03/01/05		17.06	---	162.71	---	
	06/07/05		17.95	---	161.82	---	
	<b>09/06/05</b>		<b>20.68</b>	<b>---</b>	<b>159.09</b>	<b>---</b>	

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-12	09/14/94	178.71 <sup>2</sup>	22.15	---	156.56	---	
	10/26/94		22.11	---	156.60	---	
	11/21/94		---	---	---	---	
	12/06/94		19.58	---	159.13	---	
	03/09/95		15.51	---	163.20	---	
	06/13/95		18.21	---	160.50	---	
	09/14/95	178.67 <sup>4</sup>	20.70	---	157.97	---	
	03/26/96		15.53	---	163.14	---	
	06/24/96		18.67	---	160.00	---	
	12/26/96		16.86	---	161.81	---	
	06/24/97		19.45	---	159.22	---	
	12/16/97		17.60	---	161.07	---	
	06/15/98		17.71	---	160.96	---	
	01/06/99		19.61	---	159.06	---	
	07/12/99		19.71	---	158.96	---	
	12/20/99		20.56	---	158.11	---	
	12/14/00		20.61	---	158.06	---	
	03/14/01		17.25	---	161.42	---	
	06/12/02		19.70	---	158.97	---	
	09/11/02		21.40	---	157.27	---	
	12/11/02		20.99	---	157.68	---	
	03/17/03		16.99	---	161.68	---	
	06/17/03		18.90	---	159.77	---	
	09/15/03		21.17	---	155.50	---	
	12/15/03		19.16	---	159.51	---	
	03/16/04		16.36	---	162.31	---	
	06/14/04		20.00	---	158.67	---	
	09/14/04	179.02	21.75	---	157.27	---	
	12/14/04		19.30	---	159.72	---	
	03/01/05		16.69	---	162.33	---	
	06/07/05		17.51	---	161.51	---	
	<b>09/06/05</b>		<b>20.34</b>	---	<b>158.68</b>	---	

**TABLE 1**  
**GROUNDWATER LEVEL DATA**  
**FORMER CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**

Monitoring Well	Date	Reference Elevation <sup>1</sup> (ft.)	Measured Depth to Groundwater <sup>1</sup> (ft.)	Depth to LNAPL <sup>1</sup> (ft.)	Groundwater Elevation (ft.)	Thickness of LNAPL (ft.)	Notes
MW-13	09/14/04	181.90	23.65	---	158.25	---	slight odor
	12/14/04		20.57	---	161.33	---	
	03/01/05		17.70	---	164.20	---	slight odor
	06/07/05		19.15	---	162.75	---	slight odor
	<b>09/06/05</b>		<b>22.30</b>	---	<b>159.60</b>	---	
MW-14	09/14/04	182.18	24.05	---	158.13	---	slight sheen
	12/14/04		21.18	---	161.00	---	
	03/01/05		18.43	---	163.75	---	
	06/07/05		19.90	---	162.28	---	
	<b>09/06/05</b>		<b>22.78</b>	---	<b>159.40</b>	---	

Notes:

1 = Measurement and reference elevation taken from notch/mark on top north side of casing

2 = Elevations surveyed by a state-licensed land surveyor, referenced to City of Santa Rosa Benchmark A-21

3 = Elevations resurveyed by a state-licensed land surveyor, referenced to vertical datum/mean sea level

4 = Elevations resurveyed by a state-licensed land surveyor, referenced to City of Santa Rosa Benchmark A-21

5 = Elevations resurveyed by a state-licensed land surveyor, referenced to the City of Santa Rosa Benchmark A-21

LNAPL = Light Non-Aqueous Phase Liquid

\* = Groundwater elevations calculated using corrected depth to water (CDTW) as shown in SOP 12 in Attachment 1

--- = Not measured/not observed

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-1	9/10/1991	3,500	390	9.7	1.1	360	---	---	
	2/5/1992	---	---	---	---	---	---	---	Contained LNAPL
	5/29/1992	---	---	---	---	---	---	---	Contained LNAPL
	8/27/1992	---	---	---	---	---	---	---	Contained LNAPL
	11/12/1992	---	---	---	---	---	---	---	Contained LNAPL
	2/10/1993	65,000	16,000	17,000	1,500	8,100	---	---	
	3/10/1994	---	---	---	---	---	---	---	Contained LNAPL
	6/9/1994	140,000	25,000	12,000	1,900	15,000	1,600	---	
	9/14/1994	---	---	---	---	---	---	---	Contained LNAPL
	12/6/1994	29,000	2,600	3,300	270	3,900	---	---	
	3/9/1995	---	---	---	---	---	---	---	
	6/13/1995	---	---	---	---	---	---	---	Contained LNAPL
	9/14/1995	---	---	---	---	---	---	---	
	3/26/1996	110,000	14,000	21,000	2,200	16,000	---	---	
	6/24/1996	---	---	---	---	---	---	---	
	12/26/1996	---	---	---	---	---	---	---	
	6/24/1997	---	---	---	---	---	---	---	
	12/16/1997	67,000	10,000	6,300	1,800	9,300	---	---	
	6/15/1998	---	---	---	---	---	---	---	
	1/6/1999	Sheen	---	---	---	---	---	---	
	7/12/1999	54,200	11,600	825	2,200	7,160	4,910	---	
	12/20/1999	---	---	---	---	---	---	---	
	12/14/2000	53,000	14,000	620	1,700	5,400	4,600	ND< 100	
	3/14/2001	41,000	7,700	460	1,800	5,000	2,900	ND< 5.0	
	6/12/2002	---	---	---	---	---	---	---	Contained LNAPL
	9/11/2002	---	---	---	---	---	---	---	Contained LNAPL
	12/11/2002	---	---	---	---	---	---	---	Contained LNAPL
	3/17/2003	---	---	---	---	---	---	---	Contained LNAPL
	6/17/2003	---	---	---	---	---	---	---	Contained LNAPL
	9/15/2003	27,000	6,100	96	1,500	1,700	1,500	<50	Sheen, Strong Odor
	12/15/2003	22,000	5,800	140	2,100	2,000	1,200	<250	Sheen
	3/16/2004	---	---	---	---	---	---	---	Contained LNAPL
	6/14/2004	22,000	5,200	63	2,100	1,500	1,400	<40	Sheen, Strong Odor
	9/14/2004	21,000	4,700	57	1,400	260	1,800	<20	Sheen, Strong Odor
	12/14/2004	17,000	3,600	140	2,100	2,000	400	<0.5	Sheen, Strong Odor
	3/1/2005	16,000	2,000	73	1,400	1,500	320	<10	sheen
	6/7/2005	15,000	1,700	110	1,500	1,800	760	<5	sheen
	9/6/2005	25,000	4,400	140	2,600	2,000	280	<5	sheen

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-2	9/10/1991	43,000	21,000	3,600	1,300	4,100	---	---	
	2/5/1992	53,000	16,000	4,400	1,600	3,700	---	---	
	5/29/1992	---	---	---	---	---	---	---	Contained LNAPL
	8/27/1992	---	---	---	---	---	---	---	Contained LNAPL
	11/12/1992	---	---	---	---	---	---	---	Contained LNAPL
	2/10/1993	---	---	---	---	---	---	---	Contained LNAPL
	3/10/1994	---	-----	---	---	---	---	---	Contained LNAPL
	6/9/1994	240,000	36,000	25,000	3,400	17,000	1,800	---	
	9/14/1994	---	---	---	---	---	---	---	Contained LNAPL
	12/6/1994	---	---	---	---	---	---	---	Contained LNAPL
	3/9/1995	---	---	---	---	---	---	---	
	6/13/1995	---	---	---	---	---	---	---	
	9/14/1995	---	---	---	---	---	---	---	
	3/26/1996	650,000	78,000	17,000	7,500	65,000	---	---	
	6/24/1996	---	---	---	---	---	---	---	
	12/26/1996	---	---	---	---	---	---	---	
	6/24/1997	---	---	---	---	---	---	---	Not Located
	12/16/1997	---	---	---	---	---	---	---	Not Located
	6/15/1998	---	---	---	---	---	---	---	Not Located
	1/6/1999	---	---	---	---	---	---	---	Not Located
	7/12/1999	---	---	---	---	---	---	---	Found Damaged
	12/20/1999	---	---	---	---	---	---	---	Damaged
	12/14/2000	---	---	---	---	---	---	---	Destroyed 2/9/00

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-3	9/10/1991	13,000	7,000	9,140	10	690	---	---	
	2/5/1992	59,000	18,000	4,700	1,800	7,800	---	---	
	5/29/1992	---	---	---	---	---	---	---	Contained LNAPL
	8/27/1992	---	---	---	---	---	---	---	Contained LNAPL
	11/12/1992	---	---	---	---	---	---	---	Contained LNAPL
	2/10/1993	---	---	---	---	---	---	---	Contained LNAPL
	3/10/1994	---	---	---	---	---	---	---	
	6/9/1994	82,000	18,000	4,800	1,800	6,400	< 500	---	
	9/14/1994	---	---	---	---	---	---	---	Contained LNAPL
	12/6/1994	---	---	---	---	---	---	---	Contained LNAPL
	3/9/1995	---	---	---	---	---	---	---	Contained LNAPL
	6/13/1995	---	---	---	---	---	---	---	Contained LNAPL
	9/14/1995	---	---	---	---	---	---	---	
	3/26/1996	---	---	---	---	---	---	---	Contained LNAPL
	6/24/1996	---	---	---	---	---	---	---	
	12/26/1996	---	---	---	---	---	---	---	Contained LNAPL
	6/24/1997	---	---	---	---	---	---	---	
	12/16/1997	---	---	---	---	---	---	---	Contained LNAPL
	6/15/1998	---	---	---	---	---	---	---	Contained LNAPL
	1/6/1999	---	---	---	---	---	---	---	Contained LNAPL
	7/12/1999	85,600	< 100	558	2,400	4,860	1,700	---	
	12/20/1999	---	---	---	---	---	---	---	
	12/14/2000	59,000	5,200	290	1,400	3,100	990	<25	Contained LNAPL
	3/14/2001	35,000	3,800	270	1,300	3,100	930	<5.0	Contained LNAPL
	6/12/2002	---	---	---	---	---	---	---	Contained LNAPL
	9/11/2002	---	---	---	---	---	---	---	Contained LNAPL
	12/11/2002	---	---	---	---	---	---	---	Contained LNAPL
	3/17/2003	---	---	---	---	---	---	---	Contained LNAPL
	6/17/2003	---	---	---	---	---	---	---	Contained LNAPL
	9/15/2003	---	---	---	---	---	---	---	Contained LNAPL
	12/15/2003	---	---	---	---	---	---	---	Contained LNAPL
	3/16/2004	---	---	---	---	---	---	---	Contained LNAPL
	6/14/2004	7,700	1,200	25	290	61	180	<2.5	sheen, odor
	9/14/2004	590	510	<0.5	12	2.8	100	<0.5	sheen
	12/14/2004	4,200	620	39	470	64	55	<0.50	Heavy sheen, odor
	3/1/2005	16,000	<50	120	94	190	<0.5	<0.50	sheen
	6/7/2005	1,900	81	26	68	30	2.2	<0.50	sheen
	9/6/2005	11,000	2,400	57	750	990	160	TAME = 7.6	sheen

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-4	5/29/1992	34,000	8,900	580	1,600	3,100	---	---	Contained LNAPL
	8/27/1992	290,000	11,000	560	1,700	1,800	---	---	
	11/12/1992	---	---	---	---	---	---	---	
	2/10/1993	35,000	12,000	820	2,300	5,400	---	---	
	3/10/1994	52,000	9,800	780	4,300	22,000	---	---	
	6/9/1994	44,000	10,000	460	1,300	2,000	1,200	---	
	9/14/1994	24,000	7,000	340	2,200	1,400	---	---	
	12/6/1994	28,000	9,600	440	2,700	2,300	---	---	
	3/9/1995	---	---	---	---	---	---	---	
	6/13/1995	---	---	---	---	---	---	---	
	9/14/1995	---	---	---	---	---	---	---	
	3/26/1996	<50	1.2	<0.5	<0.5	<0.5	---	---	
	6/24/1996	--	---	---	---	---	---	---	
	12/26/1996	12,600	2,500	63.2	540	389	---	---	
	6/24/1997	---	---	---	---	---	---	---	
	12/16/1997	12,000	2,200	330	900	400	---	---	
	6/15/1998	---	---	---	---	---	---	---	
	1/6/1999	11,500	2,200	37.9	1,310	578	---	---	
	7/12/1999	7,120	1,050	30.8	658	398	220	---	
	12/20/1999	---	---	---	---	---	---	---	
	12/14/2000	---	---	---	---	---	---	---	Destroyed 2/9/00
MW-5	5/29/1992	110,000	20,000	17,000	2,600	13,000	---	---	Contained LNAPL
	8/27/1992	---	---	---	---	---	---	---	
	11/12/1992	---	---	---	---	---	---	---	
	2/10/1993	---	---	---	---	---	---	---	
	3/10/1994	---	---	---	---	---	---	---	Contained LNAPL
	6/9/1994	160,000	24,000	14,000	3,000	18,000	< 1,000	---	
	9/14/1994	---	---	---	---	---	---	---	
	12/6/1994	---	---	---	---	---	---	---	
	3/9/1995	---	---	---	---	---	---	---	Not Located
	6/13/1995	---	---	---	---	---	---	---	
	9/14/1995	---	---	---	---	---	---	---	
	3/26/1996	7,800	880	110	56	460	---	---	
	6/24/1996	---	---	---	---	---	---	---	Not Located
	12/26/1996	28,500	5,760	958	322	4,430	---	---	
	6/24/1997	---	---	---	---	---	---	---	
	12/16/1997	---	---	---	---	---	---	---	
	6/15/1998	---	---	---	---	---	---	---	Not Located
	1/6/1999	---	---	---	---	---	---	---	
	7/13/1999	41,700	5,670	1,460	1,700	7,670	603	---	
	12/20/1999	---	---	---	---	---	---	---	
	12/14/2000	---	---	---	---	---	---	---	Destroyed 2/9/00

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-6	5/29/1992	37,000	6,400	1,200	2,500	13,000	---	---	
	8/27/1992	52,000	9,200	800	2,000	4,500	---	---	
	11/12/1992	---	---	---	---	---	---	---	Contained LNAPL
	2/10/1993	---	---	---	---	---	---	---	Contained LNAPL
	3/10/1994	---	---	---	---	---	---	---	Contained LNAPL
	6/9/1994	---	---	---	---	---	---	---	Contained LNAPL
	9/14/1994	---	---	---	---	---	---	---	Contained LNAPL
	12/6/1994	---	---	---	---	---	---	---	Contained LNAPL
	3/9/1995	---	---	---	---	---	---	---	
	6/13/1995	---	---	---	---	---	---	---	
	9/14/1995	---	---	---	---	---	---	---	Contained LNAPL
	3/26/1996	44,000	3,700	760	1,700	6,800	---	---	
	6/24/1996	---	---	---	---	---	---	---	
	12/26/1996	---	---	---	---	---	---	---	Contained LNAPL
	6/24/1997	---	---	---	---	---	---	---	
	12/16/1997	---	---	---	---	---	---	---	Contained LNAPL
	6/15/1998	24,800	5,160	268	1,430	1,780	---	---	
	1/6/1999	Sheen	---	---	---	---	---	---	
	7/12/1999	18,700	5,070	174	921	159	416	---	
	12/20/1999	---	---	---	---	---	---	---	
	12/14/2000	20,000	4,100	120	730	400	410	< 20	
	3/14/2001	34,000	3,600	120	1,000	880	300	< 5.0	
	6/12/2002	16,000	3,200	110	830	410	170	< 5.0	Contained LNAPL
	9/11/2002	---	---	---	---	---	---	---	Contained LNAPL
	12/11/2002	6,200	2,800	140	560	370	210	< 5.0	
	3/17/2003	20,000	2,000	200	1,400	1,900	< 100	< 100	
	6/17/2003	15,000	2,700	91	770	360	170	<25	
	9/15/2003	13,000	2,900	120	770	450	160	<100	
	12/15/2003	15,000	3,300	200	1,200	1,100	94	<25	
	3/16/2004	9,500	2,500	77	760	440	75	<0.50	
	6/14/2004	11,000	2,400	41	800	240	110	<2.5	sheen, odor
	9/14/2004	10,000	2,600	49	500	130	170	<0.50	sheen
	12/14/2004	9,000	1,700	140	780	610	110	<0.50	Sheen, Strong Odor
	3/1/2005	10,000	1,700	55	720	390	180	<5.0	sheen
	6/7/2005	10,000	1,400	68	490	220	110	<5.0	sheen
	9/6/2005	12,000	910	49	680	170	82	<0.50	sheen



**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-7	5/29/1992	23,000	6,200	1,100	1,300	5,000	---	---	
	8/27/1992	26,000	12,000	2,000	560	1,300	---	---	
	11/12/1992	28,000	9,800	810	470	830	---	---	
	2/10/1993	---	---	---	---	---	---	---	Contained LNAPL
	3/10/1994	84,000	32,000	33,000	2,800	14,000	---	---	
	6/9/1994	---	---	---	---	---	---	---	Contained LNAPL
	9/14/1994	---	---	---	---	---	---	---	Contained LNAPL
	12/6/1994	---	---	---	---	---	---	---	Contained LNAPL
	3/9/1995	---	---	---	---	---	---	---	
	6/13/1995	---	---	---	---	---	---	---	Contained LNAPL
	9/14/1995	---	---	---	---	---	---	---	Contained LNAPL
	3/26/1996	130,000	17,000	21,000	3,600	18,000	---	---	
	6/24/1996	---	---	---	---	---	---	---	
	12/26/1996	---	---	---	---	---	---	---	Contained LNAPL
	6/24/1997	---	---	---	---	---	---	---	
	12/16/1997	---	---	---	---	---	---	---	Contained LNAPL
	6/15/1998	---	---	---	---	---	---	---	Contained LNAPL
	1/6/1999	---	---	---	---	---	---	---	Contained LNAPL
	7/12/1999	---	---	---	---	---	---	---	
	12/20/1999	---	---	---	---	---	---	---	
	1/15/2001	47,000	2,900	1,200	550	5,900	2,500	< 60	Contained LNAPL
	3/14/2001	43,000	4,400	2,000	810	5,700	1,700	< 5.0	
	6/12/2002	---	---	---	---	---	---	---	Contained LNAPL
	9/11/2002	---	---	---	---	---	---	---	Contained LNAPL
	12/11/2002	---	---	---	---	---	---	---	Contained LNAPL
	3/17/2003	---	---	---	---	---	---	---	Contained LNAPL
	6/17/2003	---	---	---	---	---	---	---	Contained LNAPL
	9/15/2003	---	---	---	---	---	---	---	Contained LNAPL
	12/15/2003	---	---	---	---	---	---	---	Contained LNAPL
	3/16/2004	---	---	---	---	---	---	---	Contained LNAPL
	6/14/2004	---	---	---	---	---	---	---	Contained LNAPL
	9/14/2004	---	---	---	---	---	---	---	Contained LNAPL
	12/14/2004	33,000	6,600	310	2,200	10,000	870	TBA=600	strong odor
	3/1/2005	28,000	6,200	400	940	3,500	1,100	<10	sheen
	6/7/2005	27,000	5,600	360	930	3,500	710	<10	sheen
	9/6/2005	---	---	---	---	---	---	---	Contained LNAPL

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-8	5/29/1992	20,000	4,200	320	980	1,700	---	---	
	8/27/1992	28,000	6,100	210	14,000	1,300	---	---	
	11/12/1992	26,000	5,400	110	16,000	1,300	---	---	
	2/10/1993	14,000	5,200	350	100	1,700	---	---	
	3/10/1994	76,000	8,800	1,000	6,900	5,800	---	---	
	6/9/1994	30,000	8,000	<.200	1,600	740	460	---	
	9/14/1994	12,000	3,900	34	650	110	---	---	
	12/6/1994	21,000	6,200	170	2,000	2,600	---	---	
	3/9/1995	---	---	---	---	---	---	---	
	6/13/1995	---	---	---	---	---	---	---	
	9/14/1995	---	---	---	---	---	---	---	
	3/26/1996	18,000	1,600	31	1,100	1,000	---	---	
	6/24/1996	---	---	---	---	---	---	---	
	12/26/1996	---	---	---	---	---	---	---	
	6/24/1997	---	---	---	---	---	---	---	
	12/16/1997	17,000	2,000	74	930	960	---	---	
	6/15/1998	15,300	3,210	103	934	999	---	---	
	1/6/1999	6,820	1,730	< 20	599	368	---	---	
	7/12/1999	6,900	1,640	< 50	224	< 50	98.8	---	
	12/20/1999	---	---	---	---	---	---	---	
	12/14/2000	5,000	870	14	140	18	100	< 2.5	
	3/14/2001	15,000	890	38	480	460	55	< 5.0	
	6/12/2002	6,000	1,300	21	150	60	72	< 5.0	
	9/11/2002	1,700	850	2.2	25	6	72	< 25	
	12/11/2002	1,000	350	7.3	110	55	38	< 5.0	
	3/17/2003	2,100	250	9.2	120	72	< 100	< 100	
	6/17/2003	4,900	1,000	17	98	48	75	<25	
	9/15/2003	4,300	930	16	86	11	57	<5.0	
	12/15/2003	4,000	550	17	240	130	48	<5.0	
	3/16/2004	4,000	740	5	320	200	23	<0.50	
	6/14/2004	5,300	1,300	32	320	94	56	<5.0	strong odor
	9/14/2004	3,300	660	15	47	6	57	TAME = 6.6	strong odor
	12/14/2004	2,900	420	21	280	160	22	<0.5	strong odor
	3/1/2005	4,700	510	18	180	120	38	<0.5	slight odor
	6/7/2005	900	69	12	19	<10	6.2	<0.5	slight odor
	9/6/2005	5,000	710	30	130	33	38	TAME = 4.3	slight odor

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-9	8/27/1993	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	12/28/1993	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	3/10/1994	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	6/9/1994	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 1	---	
	9/14/1994	< 50	< 0.5	< 0.5	< 0.5	9	---	---	
	12/6/1994	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	3/9/1995	180	0.027	< 0.5	< 0.5	10	---	---	
	6/13/1995	110	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	9/14/1995	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	3/26/1996	< 50	0.0046	< 0.5	< 0.5	6	---	---	
	6/24/1996	64	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	12/26/1996	< 50	0.0016	< 0.5	6	5	---	---	
	6/24/1997	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	12/16/1997	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	6/15/1998	---	---	---	---	---	---	---	
	1/6/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	7/12/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0	---	
	12/20/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	---	
	12/14/2000	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0	
	3/14/2001	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.50	
	6/12/2002	< 50	< 0.5	< 0.5	< 0.5	< 0.5	0.52	< 0.50	
	9/11/2002	< 50	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0	< 5.0	
	12/11/2002	< 50	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0	< 5.0	
	3/17/2003	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	< 5.0	
	6/17/2003	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	< 5.0	
	9/15/2003	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	< 5.0	
	12/15/2003	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	< 5.0	
	3/16/2004	< 50	< 0.5	< 0.5	< 0.5	< 1.0	0.69	< 0.50	
	6/14/2004	< 50	< 0.5	< 0.5	< 0.5	< 1.0	0.99	< 0.50	
	9/14/2004	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.50	
	12/14/2004	< 50	0.72	< 0.5	< 0.5	< 1.0	< 0.5	< 0.50	
	3/1/2005	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.50	
	6/7/2005	< 50	< 0.5	< 0.5	< 0.5	< 1.0	1.1	< 0.50	
	9/6/2005	< 50	< 0.5	< 0.5	< 0.5	< 1.0	1.0	< 0.50	

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-10	8/5/1994	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 25	---	
	9/14/1994	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	12/6/1994	230	< 0.5	< 0.5	20	2.2	---	---	
	3/9/1995	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	6/13/1995	110	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	9/14/1995	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	3/26/1996	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	6/24/1996	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	12/26/1996	138	< 0.5	< 0.5	< 0.5	7	---	---	
	6/24/1997	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	12/16/1997	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	6/15/1998	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	1/6/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	7/12/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0	---	
	12/20/1999	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	---	
	12/14/2000	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0	
	3/14/2001	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	<0.50	
	6/12/2002	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.50	
	9/11/2002	< 50	< 0.3	< 0.3	< 0.3	< 0.6	< 5.0	< 5.0	
	12/11/2002	< 50	< 0.3	< 0.3	< 0.3	< 0.6	<5.0	< 5.0	
	3/17/2003	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	< 5.0	
	6/17/2003	<50	<0.5	<0.5	<0.5	<1.0	<5.0	<5.0	
	9/15/2003	<50	<0.5	<0.5	<0.5	<1.0	<5.0	<5.0	
	12/15/2003	<50	<0.5	<0.5	<0.5	<1.0	<5.0	<5.0	
	3/16/2004	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	
	6/14/2004	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	
	9/14/2004	<50	0.68	0.50	<0.5	<1.0	<0.5	<0.50	
	12/14/2004	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	
	3/1/2005	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	
	6/7/2005	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	
	9/6/2005	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-11	8/5/1994	6,800	< 0.5	< 0.5	4.2	12	< 25	---	
	9/14/1994	2,000	30	3.2	14	98	---	---	
	12/6/1994	390	< 0.5	< 0.5	< 0.5	0.6	---	---	
	3/9/1995	< 50	5	< 0.5	< 0.5	< 0.5	---	---	
	6/13/1995	2,400	17	< 2	3	5.8	---	---	
	9/14/1995	1,400	< 1	1.7	2.8	5.4	---	---	
	3/26/1996	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	6/24/1996	1,370	16.7	2.8	6	2.3	---	---	
	12/26/1996	93	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	6/24/1997	< 50	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	12/16/1997	240	< 0.5	< 0.5	< 0.5	< 0.5	---	---	
	6/15/1998	1,240	< 0.5	6.2	2.69	3.33	---	---	
	1/6/1999	2,370	61.7	2.42	8.61	12.2	---	---	
	7/12/1999	1,010	8.57	5.79	0.947	0.956	21.4	---	
	12/20/1999	624	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	---	
	12/14/2000	540	< 0.5	16	< 0.5	< 0.5	1.8	< 1.0	
	3/14/2001	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 1.0	
	6/12/2002	420	< 0.5	13	< 0.5	< 0.5	13	< 0.50	
	9/11/2002	< 50	< 0.3	< 0.3	< 0.3	< 0.6	6.9	< 5.0	
	12/11/2002	< 50	< 0.3	3.3	< 0.3	< 0.6	< 5.0	< 5.0	
	3/17/2003	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	< 5.0	
	6/17/2003	270	< 0.5	11	< 0.5	< 1.0	9	< 5.0	
	9/15/2003	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	< 5.0	
	12/15/2003	81	< 0.5	< 0.5	< 0.5	< 1.0	< 5.0	< 5.0	
	3/16/2004	< 50	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.50	
	6/14/2004	150	< 0.5	5.0	0.78	< 1.0	6.9	< 0.50	
	9/14/2004	< 50	< 0.5	< 0.5	< 0.5	< 1.0	3.6	< 0.50	
	12/14/2004	95	< 0.5	2.5	0.67	< 1.0	< 0.5	< 0.50	
	3/1/2005	< 50	< 0.5	0.71	< 0.5	< 1.0	1.8	< 0.50	
	6/7/2005	140	< 0.5	4.50	< 0.5	< 1.0	0.93	< 0.50	
	<b>9/6/2005</b>	<b>240</b>	<b>&lt; 0.5</b>	<b>6.2</b>	<b>&lt; 0.5</b>	<b>&lt; 1.0</b>	<b>3.8</b>	<b>&lt; 0.50</b>	

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-12	8/5/1994	2,900	19	1.3	6	24	< 25	---	
	9/14/1994	4,800	88	12	140	120	---	---	
	12/6/1994	4,500	68	7	170	180	---	---	
	3/9/1995	< 50	< 0.5	<0.5	< 0.5	< 0.5	---	---	
	6/13/1995	3,500	19	16	67	64	---	---	
	9/14/1995	13,000	120	18	490	340	---	---	
	3/26/1996	< 50	< 0.5	<0.5	< 0.5	< 0.5	---	---	
	6/24/1996	11,300	83	13.1	408	295	---	---	
	12/26/1996	6,400	27.8	< 5	113	111	---	---	
	6/24/1997	1,000	13	1.5	44	34	---	---	
	12/16/1997	3,000	15	4.9	50	50	---	---	
	6/15/1998	7,850	170	7.58	180	138	---	---	
	1/6/1999	13,900	257	47.9	456	279	---	---	
	7/12/1999	11,300	228	< 20	384	252	< 2.0	---	
	12/20/1999	12,300	191	< 50	479	296	< 250	---	
	12/14/2000	14,000	55	16	430	220	< 2.0	EDC-2.6	
	3/14/2001	11,000	< 0.5	8.8	160	120	< 25	EDC-1.3	
	6/12/2002	17,000	95	16	150	60	< 10	< 10	
	9/11/2002	3,900	65	19	220	110	< 5.0	< 5.0	
	12/11/2002	6,800	34	ND < 1.5	370	130	< 5.0	< 5.0	
	3/17/2003	7,000	13	< 5.0	110	79	< 5.0	< 5.0	
	6/17/2003	6,400	30	24	280	160	<5.0	<5.0	
	9/15/2003	8,600	53	47	370	190	<5.0	<5.0	
	12/15/2003	7,700	72	54	390	170	<5.0	<5.0	
	3/16/2004	3,200	40	6.5	51	120	<0.5	1,2 DCA -2.6	
	6/14/2004	150	0.96	<0.5	3.9	3.4	<0.5	<0.50	
	9/14/2004	6,800	41	50	390	170	<5	<5	
	12/14/2004	4,900	20	39	230	81	<0.5	<0.50	
	3/1/2005	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	
	6/7/2005	<50	<0.5	<0.5	<0.5	<1.0	<0.5	<0.50	
	9/6/2005	6,900	48	40	370	220	<0.5	<0.50	

**TABLE 2**  
**ANALYTICAL RESULTS: GROUNDWATER**  
**CLOUDBURST CAR WASH**  
**1322 FOURTH STREET**  
**SANTA ROSA, CALIFORNIA**  
(all results in µg/L)

Monitoring Well	Date Collected	Total Petroleum Hydrocarbons as Gasoline	Aromatic Volatile Organics				MTBE	EDB/ EDC	Notes
			Benzene	Toluene	Ethyl-Benzene	Total Xylenes			
MW-13	9/14/2004	5,300	4,200	12	46	45	1,800	<20	slight odor
	12/14/2004	12,000	5,200	25	370	190	1,000	TBA=410	
	3/1/2005	6,500	5,100	32	300	76	1,600	<10	slight odor
	6/7/2005	14,000	5,500	<50	310	150	1,300	<10	slight odor
	<b>9/6/2005</b>	<b>9,900</b>	<b>4,700</b>	<b>47</b>	<b>430</b>	<b>73</b>	<b>1,300</b>	<b>&lt;10</b>	
MW-14	9/14/2004	45,000	2,800	430	2,400	3,400	520	<20	slight sheen
	12/14/2004	21,000	1,700	420	2,000	4,500	110	<0.50	
	3/1/2005	3,100	110	45	120	340	34	<0.50	
	6/7/2005	18,000	1,100	160	1,100	2,600	520	<10	
	<b>9/6/2005</b>	<b>21,000</b>	<b>2,800</b>	<b>410</b>	<b>1,800</b>	<b>4,500</b>	<b>310</b>	<b>&lt;5</b>	

Notes:

µg/L = Micrograms per liter.

LNAPL = Light Non-Aqueous Phase Liquid

< = Below the indicated reporting limits.

ND < = Not detected, reporting limit raised due to sample dilution.

--- = Not sampled.

DIPE = Di-isopropyl ether

ETBE = Ethyl tert-butyl ether

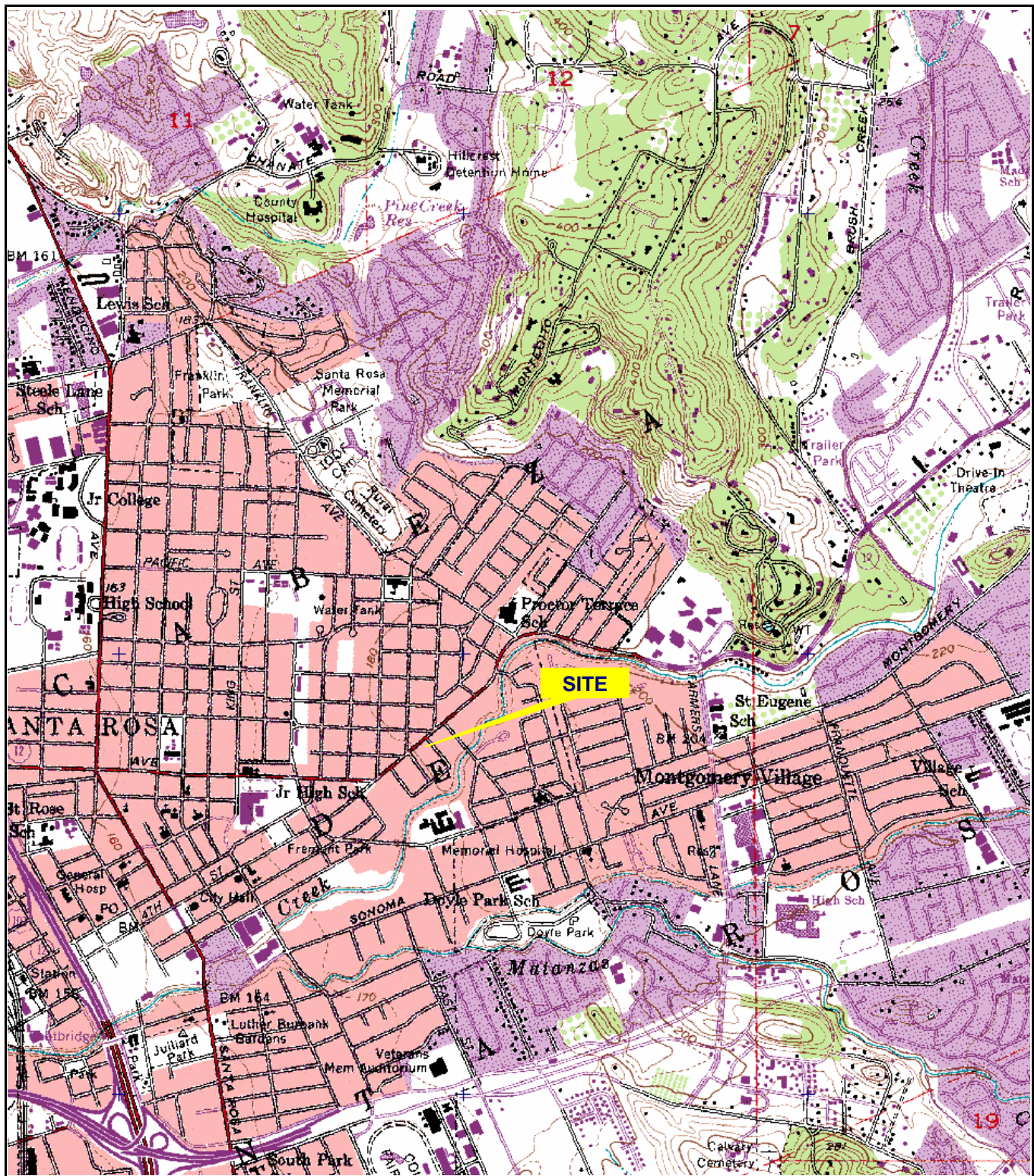
MTBE = Methyl tertiary-butyl ether

TAME = tert-Amyl methyl ether

TBA = Tert-butyl alcohol

## FIGURES





SOURCE: USGS 7.5 Minute Topographic  
Santa Rosa, California Quadrangle 1980.



10411 Old Placerville Road  
Suite 210  
Sacramento, California 95827

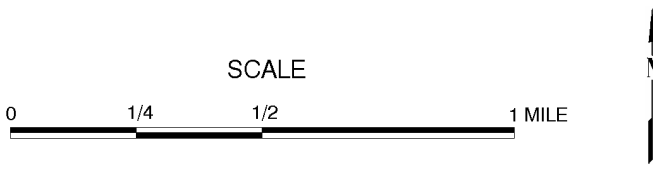
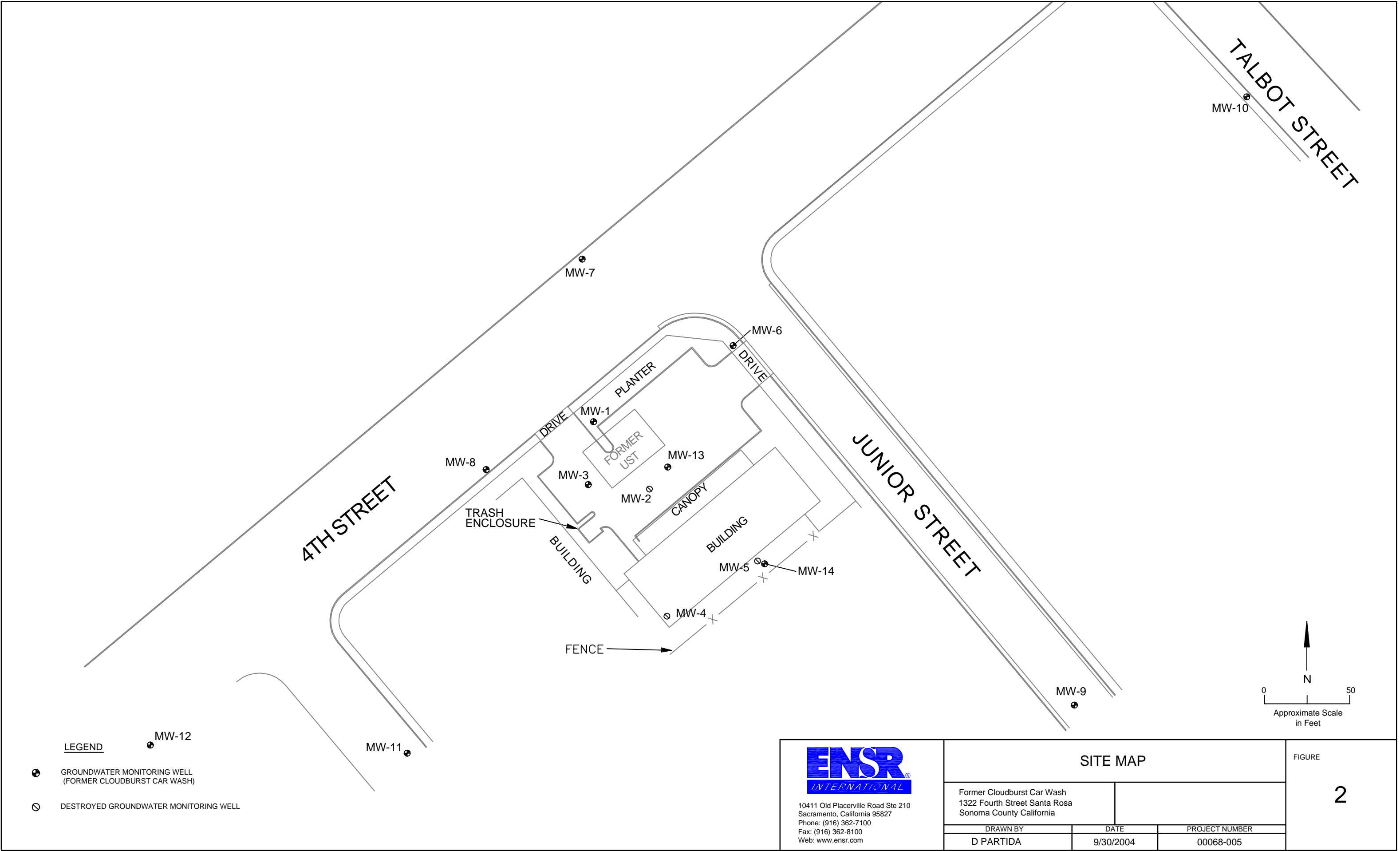
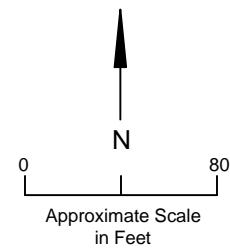
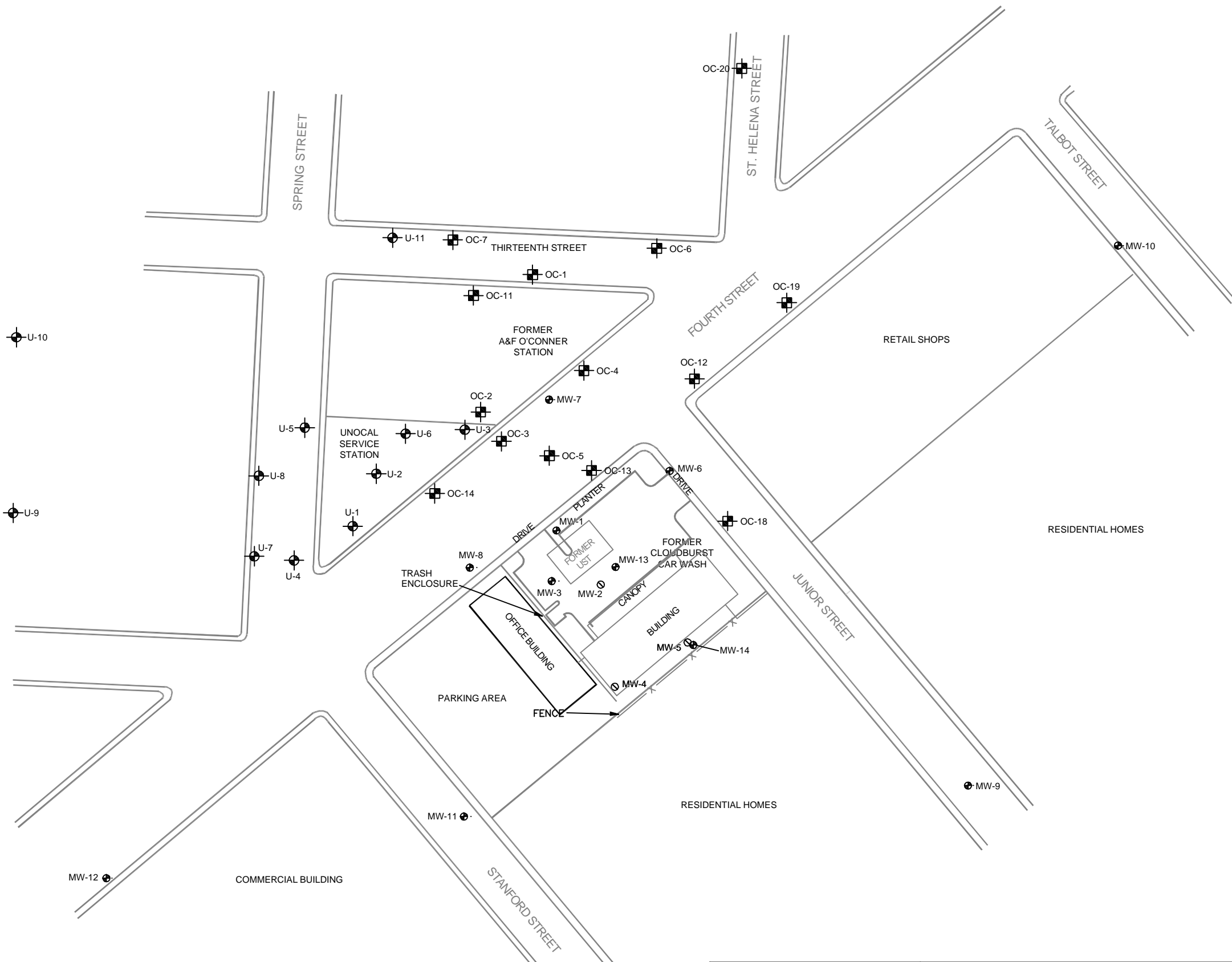


FIGURE 1  
SITE LOCATION MAP  
Former Cloudburst Car Wash  
1322 Fourth Street  
Santa Rosa, California

DRAWN: C Stagg	DATE: July 2003	PROJECT NO.: 00068-005	REV 1
FILE NO.: Figure1.doc	CHECKED: M Cannon		







**LEGEND**

- GROUNDWATER MONITORING WELL (FORMER CLOUDBURST CAR WASH)
- GROUNDWATER MONITORING WELL (UNOCAL)
- GROUNDWATER MONITORING WELL (A&F O'CONNER)
- DESTROYED GROUNDWATER MONITORING WELL



10411 Old Placerville Road Ste 210  
 Sacramento, California 95827  
 Phone: (916) 362-7100  
 Fax: (916) 362-8100  
 Web: www.ensr.com

**SITE VICINITY MAP**

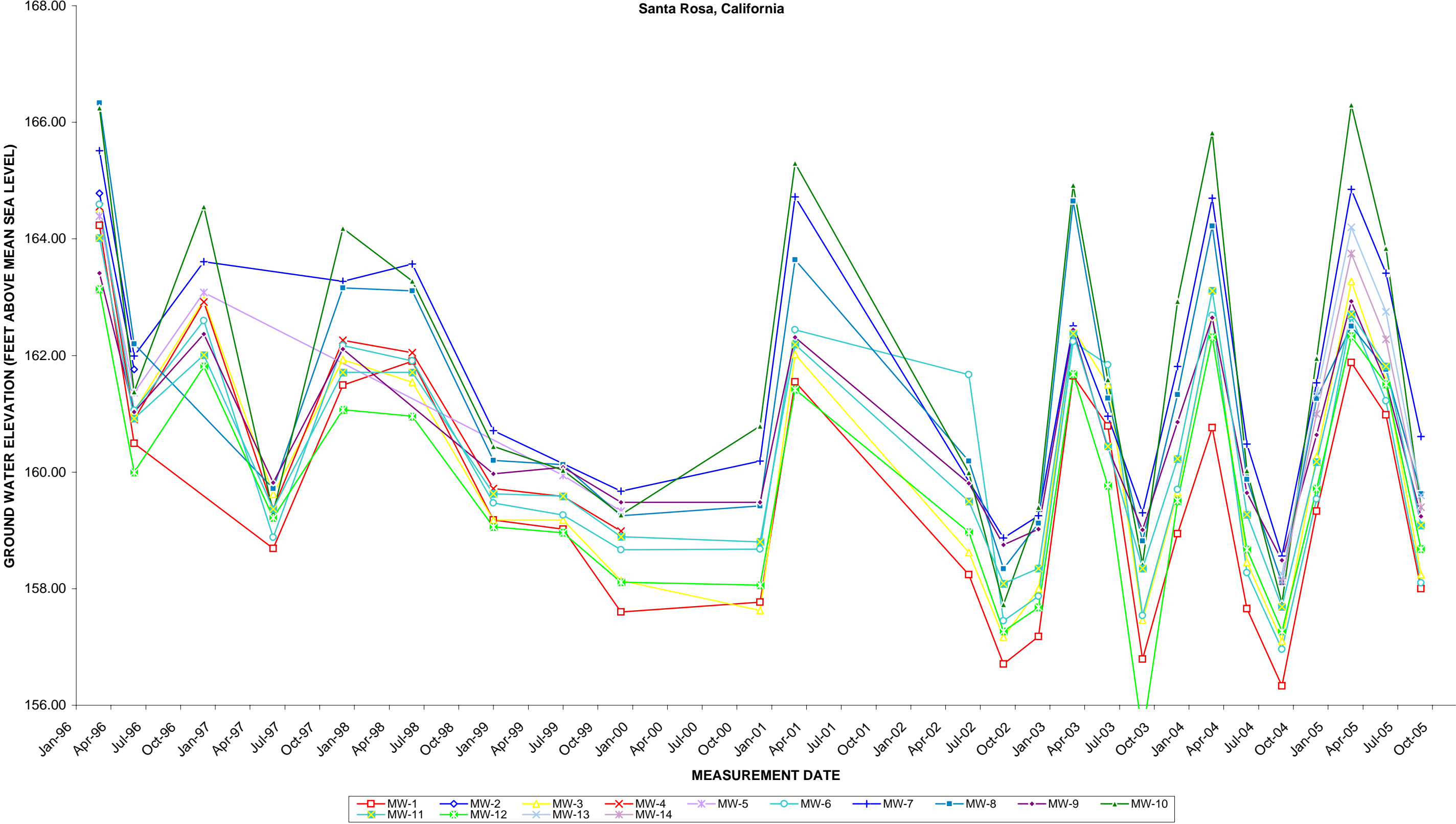
Former Cloudburst Car Wash  
 1322 Fourth Street Santa Rosa  
 Sonoma County California

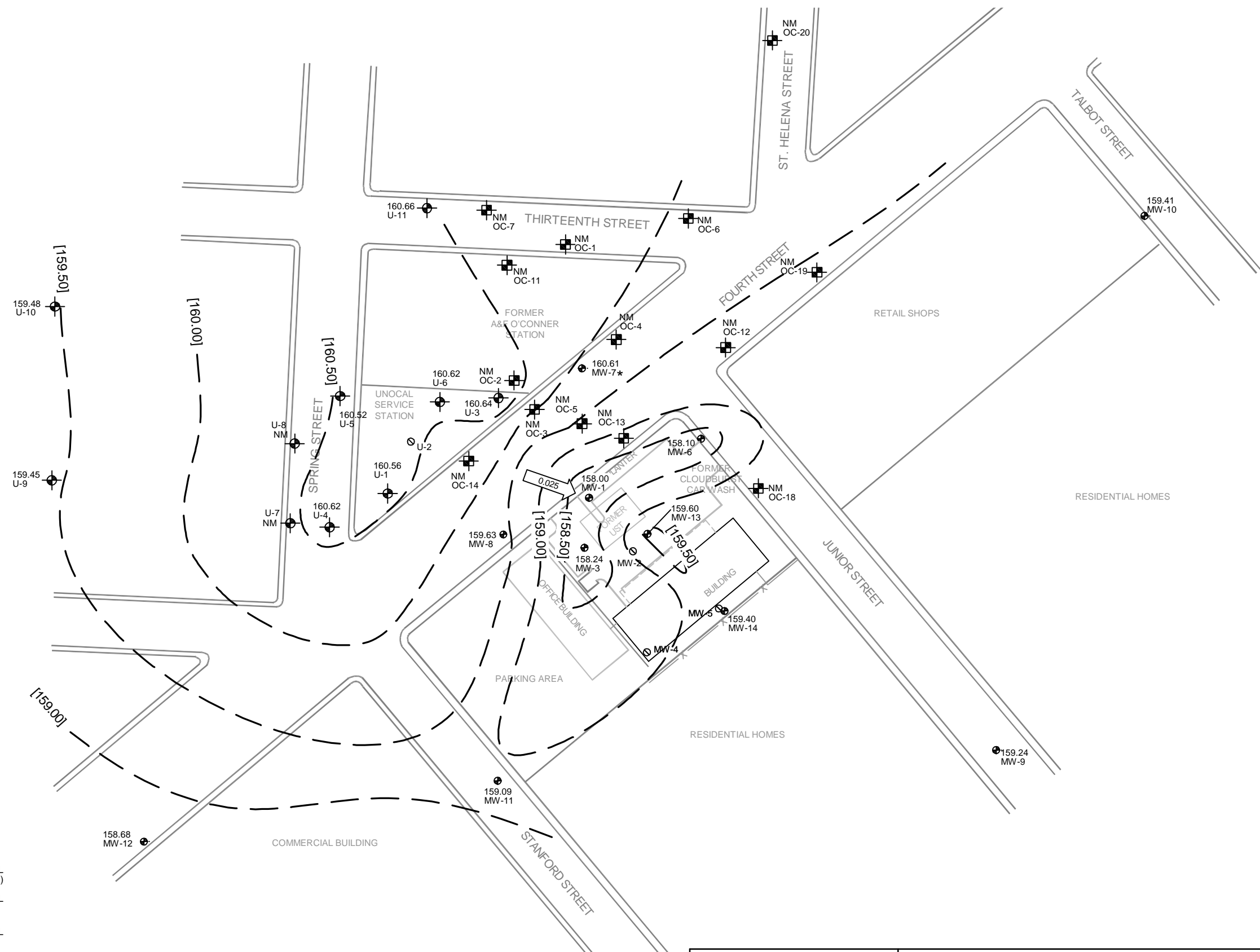
DRAWN BY	DATE	PROJECT NUMBER
D PARTIDA	9/29/2004	00068-005

FIGURE

**3**

**FIGURE 4**  
**GROUNDWATER ELEVATION HYDROGRAPH**  
Former Cloudburst Car Wash  
1322 Fourth Street  
Santa Rosa, California





LEGEND

- GROUNDWATER MONITORING WELL (FORMER CLOUDBURST CAR WASH)
- GROUNDWATER MONITORING WELL (UNOCAL)
- GROUNDWATER MONITORING WELL (A&F O'CONNER)
- DESTROYED GROUNDWATER MONITORING WELL
- 162.33 GROUNDWATER ELEVATION IN FEET MEAN SEA LEVEL (FT MSL)
- [166.00] GROUNDWATER ELEVATION CONTOUR (FT MSL)
- APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT IN ft/ft
- \* NOT INCLUDED IN CONTOUR
- NM NOT MEASURED



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Sacramento, California 95827  
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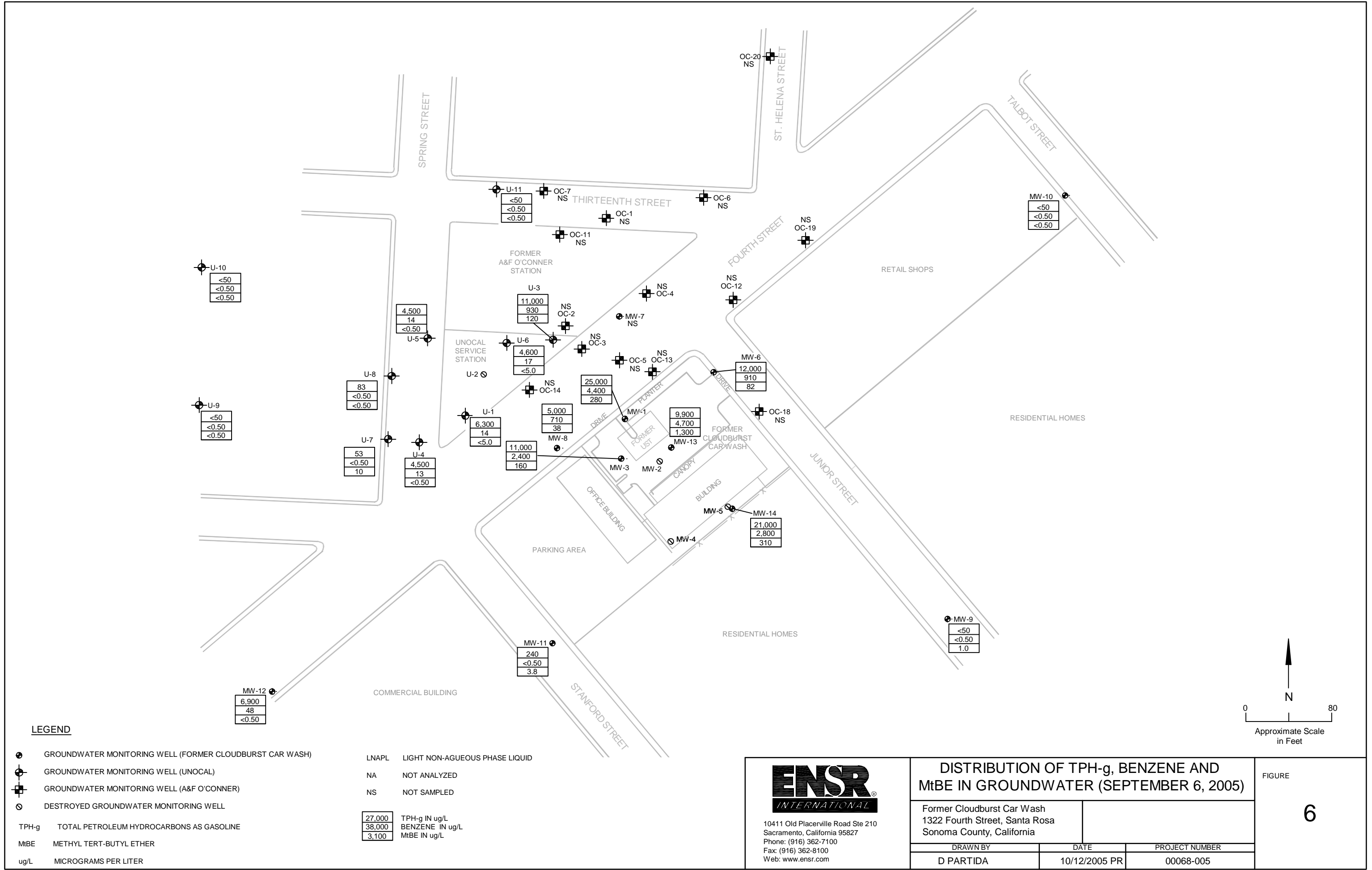
GROUNDWATER ELEVATION CONTOUR MAP  
SEPTEMBER 6, 2005

Former Cloudburst Car Wash  
1322 Fourth Street, Santa Rosa  
Sonoma County, California

DRAWN BY	DATE	PROJECT NUMBER
D PARTIDA	10/13/2005 PR	00068-005

FIGURE

5



**APPENDIX 1**  
**SITE HISTORY**

---

The Cloudburst site is located on the southwest corner of the intersection of Fourth and Junior Streets in a commercial and residential area of Santa Rosa, Sonoma County, California. Cloudburst began retail fuel sales operations with three new 10,000-gallon, single-wall, steel underground storage tanks (USTs) in 1971. The site previously retailed petroleum fuels as a Phillips 66 station.

The operator of the Cloudburst site, Diversified, removed the three USTs in March 1991, following the discontinuation of retail fuel sales at the car wash. Since August 1991, Diversified has installed fourteen groundwater monitoring wells on and off the site and operated an air sparging/soil vapor extraction system on site. The work was performed in compliance with state regulations pertaining to the investigation and cleanup of leaking USTs and with the Regional Water Quality Control Board (RWQCB) approval. The site is currently occupied by a single-story office building. Locations of existing and destroyed monitoring wells and former USTs are shown on **Figure 2**.

Remediation of soil and groundwater beneath the Subject Property has included soil excavation and disposal, the use of passive product recovery skimmers, and operation of a soil vapor extraction (SVE) system and a groundwater oxygenation system.

Beginning in 1992, light non-aqueous phase liquid (LNAPL) has been observed at times in five on-site monitoring wells (MW-1, MW-2, MW-3, MW-4 and MW-5) and two off-site monitoring wells (MW-6 and MW-7). Between April 1992 and March 1994, passive skimmers were used to recover LNAPL in three on-site monitoring wells (MW-2, MW-3, and MW-5) and two off-site monitoring wells (MW-6 and MW-7). Since 1997, LNAPL has been observed at times in wells MW-1, MW-3, MW-6 and MW-7. The largest amount of LNAPL recorded in the wells to date was 2.45 feet in well MW-7 in April 1993.

The SVE system was operated for approximately one year and five months from April 13, 1994 to January 28, 1996. Estimates from SVE system operation and monitoring data indicate that approximately 21,850 pounds of total petroleum hydrocarbons as hexane were removed from the subsurface. This is equivalent to approximately 3,642 gallons of gasoline. A groundwater oxygenation (GO) system was installed at the location of monitoring wells MW-1, MW-2, MW-3, and MW-5. The GO system introduced oxygen into the groundwater and enhanced volatilization and biodegradation of petroleum hydrocarbons in the groundwater beneath the Cloudburst site. The GO system operated in conjunction with the SVE system from September 1994 until January 1996 when both were shut down due to continued low concentrations of total petroleum hydrocarbons as gasoline (TPH-g) concentrations in influent vapors.

In February 2000, ENSR abandoned monitoring wells MW-2, MW-4 and MW-5 as part of site redevelopment plans. In addition, five vapor extraction wells (VEW-1 through VEW-5) were also decommissioned to aid in the redevelopment plans for the Subject Property.

On May 5, 2004, a UST was discovered at a depth of approximately 2.5 feet below ground surface (bgs), at the eastern boundary of the Cloudburst site, between the sidewalk along



Junior Street and the office building under construction. The UST, a former heating oil tank, was removed from the site on June 11, 2004. The tank removal was performed by Trans Tech Consultants, the consultant for the property owner. The heating oil UST is believed to have been associated with a former residence on the property, which was demolished in 1950. A remote fill pipe for the heating oil UST was located between the curb and the sidewalk along Junior Street. ENSR witnessed the removal of the heating oil UST and observed that the surrounding soil was without odor or discoloration. The heating oil UST was observed to be intact with two small pinholes, approximately 2 to 5 millimeters in diameter, on the bottom of the tank.

According to Trans Tech Consultants, one soil sample was collected from approximately two feet beneath the bottom of the heating oil UST and analyzed for TPH-g, total petroleum hydrocarbons as diesel (TPH-d), and total petroleum hydrocarbons as motor oil (TPH-mo). In addition, the sample was also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), oxygenated volatile organics, and lead scavengers. Analytical results indicated the presence of TPH-d at a concentration of 100 milligrams per kilograms (mg/kg) (exhibiting a pattern most similar to a very weathered diesel or fuel oil) beneath the heating oil UST. A soil sample collected from beneath the remote fill pipe had a TPH-d concentration of 120 mg/kg (exhibiting a pattern most similar to a very weathered diesel or fuel oil). This heating oil UST was not associated with the operation of Diversified's Cloudburst Car Wash.

On June 28, 2004, soil was excavated from the former heating oil UST location and transported to Keller Canyon Landfill. Approximately 52.5 tons of soil was removed from the excavation area that extended to a depth of approximately 14 feet bgs (Trans Tech Consultants, July 2004). Following excavation, a soil sample was collected from the base of the excavation area, at an approximate depth of 14 feet bgs, and had a concentration of 610 mg/kg TPH-d (exhibiting a pattern most similar to weathered diesel) and 30 mg/kg TPH-g (with a pattern not characteristic for gasoline). With the discovery of the UST and subsequent soil excavation, and based on the analytical data, diesel concentrations in the soil increased with depth. The monitoring wells associated with Cloudburst are not monitored for TPH-d, as diesel fuel was not dispensed at Cloudburst. The monitoring wells for the B&S Auto site are monitored for diesel, and B&S Auto's well number 18 (OC-18 on **Figure 3**) is located along Junior Street, adjacent to the Cloudburst site. Historical data provided by Cambria for OC-18 indicated that diesel concentrations have ranged from non-detect to 43,000 micrograms per liter ( $\mu\text{g/L}$ ).

On August 6, 2004, ENSR installed two monitoring wells, MW-13 and MW-14, on the Subject Property to replace MW-2, MW-4, and MW-5 and to further assess the extent of groundwater impacts. Borings were advanced to approximately 30 feet below ground surface. Each monitoring well was screened approximately five feet above to approximately 10 feet below the water table.

---

**APPENDIX 2**

**GROUNDWATER MONITORING STANDARD OPERATING PROCEDURES**

## **SAMPLE IDENTIFICATION AND CHAIN-OF-CUSTODY PROCEDURES**

### **SOP-4**

Sample identification and chain-of-custody procedures ensure sample integrity, and document sample possession from the time of collection to its ultimate disposal. Each sample container submitted for analysis is labeled to identify the job number, date, time of sample collection, a sample number unique to the sample, any name(s) of on-site personnel and any other pertinent field observations also recorded on the field excavation or boring log.

Chain-of-custody forms are used to record possession of the sample from time of collection to its arrival at the laboratory. During shipment, the person with custody of the samples will relinquish them to the next person by signing the chain-of-custody form(s) and noting the date and time. The sample-control officer at the laboratory will verify sample integrity, correct preservation, confirm collection in the proper container(s), and ensure adequate volume for analysis.

If these conditions are met, the samples will be assigned unique laboratory log numbers for identification throughout analysis and reporting. The log numbers will be recorded on the chain-of-custody forms and in the legally-required log book maintained in the laboratory. The sample description, date received, client's name, and any other relevant information will also be recorded.

## **LABORATORY ANALYTICAL QUALITY ASSURANCE AND CONTROL**

### **SOP-5**

In addition to routine instrument calibration, replicates, spikes, blanks, spiked blanks, and certified reference materials are routinely analyzed at method-specific frequencies to monitor precision and bias. Additional components of the laboratory Quality Assurance/Quality Control program include:

1. Participation in state and federal laboratory accreditation/certification programs;
2. Participation in both U.S. EPA Performance Evaluation studies (WS and WP studies) and inter-laboratory performance evaluation programs;
3. Standard operating procedures describing routine and periodic instrument maintenance;
4. "Out-of-Control"/Corrective Action documentation procedures; and,
5. Multi-level review of raw data and client reports.

## **GROUNDWATER PURGING AND SAMPLING**

### **SOP-7**

Prior to water sampling, each well is purged by evacuating a minimum of three wetted well-casing volumes of groundwater. When required, purging will continue until either the discharge water temperature, conductivity, or pH stabilize to within 10% of previously measured values; and a maximum of ten wetted casing volumes of groundwater have been recovered, or the well is bailed dry. When practical, the groundwater sample should be collected when the water level in the well recovers to at least 80 percent of its static level. Field measurements, observations and procedures are noted.

The sampling equipment consists of a clean bailer, or stainless steel bladder pump with a "Teflon" bladder. If the sampling system is dedicated to the well, then the bailer is usually "Teflon," but the bladder pump may be PVC with a polypropylene bladder. Sample container type, preservation, and volume depends on the intended analyses.

The groundwater sample is decanted into each VOA vial in such a manner that there is no meniscus at the top of the vial. A cap is quickly secured to the top of the vial. The vial is then inverted and gently tapped to see if air bubbles are present. If none are present, the vial is labeled and refrigerated for delivery, under strict chain-of-custody, to the analytical laboratory. Label information should include a unique sample identification number, job identification number, date, time, and the sampler's initials.

For quality control purposes, a duplicate water sample may be collected from a well. When required, a trip blank is prepared at the laboratory and placed in the transport cooler. It is labeled similar to the well samples, remains in the cooler during transport, and is analyzed by the laboratory along with the groundwater samples. In addition, a field blank may be prepared in the field when sampling

equipment is not dedicated. The field blank is prepared after a pump or bailer has been either steam cleaned or properly washed, prior to use in the next well, and is analyzed along with the other samples. The field blank analysis demonstrates the effectiveness of in-field cleaning procedures to prevent cross-contamination.

To minimize the potential for cross-contamination between wells, all well development and water sampling equipment not dedicated to a well is either steam cleaned or properly washed between use. As a second precautionary measure, wells are sampled in order of lowest to highest concentrations as established by available previous analytical data.

In the event the water samples cannot be submitted to the analytical laboratory on the same day they are collected (e.g., due to weekends or holidays), the samples are temporarily stored until the first opportunity for submittal either on ice in a cooler, such as when in the field, or in a refrigerator.

## **MEASURING LIQUID LEVELS USING A WATER LEVEL INDICATOR OR INTERFACE PROBE**

### **SOP-12**

Field equipment used for liquid-level gauging typically includes the measuring probe (water level or interface) and a clean product bailer(s). The field kit also includes cleaning supplies (buckets, TSP, spray bottles, and deionized water) to be used in cleaning the equipment between wells.

Prior to measurement, the probe tip is lowered into the well until it touches bottom. Using the previously established top-of-casing or top-of-box (i.e., wellhead vault) point, the probe cord (or halyard) is marked and a measuring tape (graduated in hundredths of a foot) is used to determine the distance between the probe end and the marking on the cord. This measurement is then recorded on the liquid-level data sheet as the "Measured Total Depth" of the well.

When necessary in using the interface probe to measure liquid levels, the probe is first electrically grounded to either the metal stove pipe or another metal object nearby. When no ground is available, reproducible measurements can be obtained by clipping the ground lead to the handle of the interface probe case.

The probe tip is then lowered into the well and submerged in the groundwater. An oscillating (beeping) tone indicates the probe is in water. The probe is slowly raised until either the oscillating tone ceases or becomes a steady tone. In either case, this is the depth-to-water (DTW) indicator and the DTW measurement is made accordingly. The steady tone indicates floating hydrocarbons. In this case, the probe is slowly raised until the steady tone ceases. This is the depth-to-product (DTP) indicator and the measurement of DTP is recorded. A corrected depth to groundwater to account for floating hydrocarbons can be calculated by using the following formula:

$CDTW = DTW - (SP.G \times LHT)$ .

CDTW = Corrected depth to groundwater.

DTW = Measured depth to groundwater.

SP.G = Specific gravity: unweathered gasoline = 0.75; diesel = 0.80

LHT = Measured liquid hydrocarbon thickness.

The corresponding groundwater elevation is the difference between a previously determined well reference elevation and either the depth to groundwater or the corrected depth to groundwater.

The process of lowering and raising the probe must be repeated several times to ensure accurate measurements. The DTW and DTP measurements are recorded on the liquid-level data sheet. When floating product is indicated by the probe's response, a product bailer is lowered partially through the product-water interface to confirm the product on the water surface, and as further indication of product thickness, particularly in cases where the product layer is quite thin. Either this measurement or the difference between DTW and DTP is recorded on the data sheet as "product thickness."

In order to avoid cross-contamination of wells during the liquid-level measurement process, wells are measured in the order of "clean" to "dirty" (where such information is available). In addition, all measurement equipment is cleaned with TSP or similar solution and thoroughly rinsed with deionized water before use, between measurements in respective wells, and at the completion of the day's activities.

**APPENDIX 3**

**GROUNDWATER MONITORING – FIELD DOCUMENTATION**

**GROUNDWATER/LIQUID LEVEL DATA**  
(Measurements in Feet)Project Address: 1322 Fourth Street, Santa Rosa (Former Cloudburst Car Wash) Date: 9-6-04Recorded By: \_\_\_\_\_ Project No.: 00068-005.100

Well ID	Time	Total Measured Depth of Well	Depth to Groundwater	Depth to Product	Product Thickness	Comments
MW-1	8:40	34.73	22.58			SHEEN
MW-3	8:44	29.40	22.58			HEAVY SHEEN
MW-6	8:37	31.49	22.96			SLIGHT SHEEN
MW-7	8:49	31.05	19.54	19.51	0.03	
MW-8	8:20	32.71	20.01			PETROLEUM ODOR
MW-9	8:23	34.52	23.10			
MW-10	8:27	37.58	23.35			
MW-11	8:14	29.86	20.68			
MW-12	8:10	31.63	20.34			
MW-13	8:29	29.74	22.30			
MW-14	8:33	29.14	22.78			

Well ID: **MW- /**

## Groundwater Sample Collection Record

Client: AESIC Date: 9-6-04 Time: Start \_\_\_\_\_ am/pm  
Project No: 00068-005-100 Finish \_\_\_\_\_ am/pm  
Site Location: Former Cloudburst Car Wash - Santa Rosa  
Weather Conds: \_\_\_\_\_ Collector(s): \_\_\_\_\_

### 1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 34.73 c. Length of Water Column 12.1 (a-b) Casing Diameter/Material 4"  
b. Water Table Depth 22.58 d. Calculated System Volume (see back) .65

### 2. WELL PURGE DATA

a. Purge Method: PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%  
- pH  $\pm 1.0$  unit - ORP  $\pm 10$ mV  
- Sp. Cond. 3% - Drawdown  $< 0.3'$

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed (Gallons)	Temp. (°C)	pH	Spec. Cond. ( $\mu$ S/cm)	DO (mg/L)	ORP (mV)	Color/Odor	Comments
12:00		70.8	7.08	216				
12:10		71.3	6.93	190				
12:19	24	71.8	6.90	180				

d. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

### 3. SAMPLE COLLECTION: Method: BAILER

Sample ID MW-1 Container Type VOAS No. of Containers 4 Preservation HCL Analysis Req. \_\_\_\_\_ Time 1:20

Comments \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Well ID: **MW-3**

## Groundwater Sample Collection Record

Client: <u>AESIC</u>	Date: <u>9-6-04</u>	Time: Start _____ am/pm
Project No: <u>00068-005-100</u>		Finish _____ am/pm
Site Location: <u>Former Cloudburst Car Wash - Santa Rosa</u>		
Weather Conds: _____ Collector(s): _____		

### 1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 29.40 c. Length of Water Column 6.8 (a-b) Casing Diameter/Material 4"  
b. Water Table Depth 22.58 d. Calculated System Volume (see back) .65

### 2. WELL PURGE DATA

a. Purge Method: PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	-D.O.	10%
- pH	$\pm 1.0$ unit	- ORP	$\pm 10$ mV
- Sp. Cond.	3%	- Drawdown	< 0.3'

c. Field Testing Equipment used: \_\_\_\_\_ Make \_\_\_\_\_ Model \_\_\_\_\_ Serial Number \_\_\_\_\_

Time (24hr)	Volume Removed (Gallons)	Temp. (°C)	pH	Spec. Cond. ( $\mu$ S/cm)	DO (mg/L)	ORP (mV)	Color/Odor	Comments
12:30		71.2	7.80	318				
12:40		71.5	7.10	301				
12:48	14	71.6	7.04	270				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

### 3. SAMPLE COLLECTION: Method: VOAS

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-3</u>	<u>VOAS</u>	<u>4</u>	<u>HCL</u>		<u>1:36</u>

Comments \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Well ID: **MW-6**

## Groundwater Sample Collection Record

Client: AESIC Date: 9-6-04 Time: Start \_\_\_\_\_ am/pm  
Project No: 00068-005-100 Finish \_\_\_\_\_ am/pm  
Site Location: Former Cloudburst Car Wash - Santa Rosa  
Weather Conds: \_\_\_\_\_ Collector(s): \_\_\_\_\_

### 1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 31.49 c. Length of Water Column 8.53 (a-b) Casing Diameter/Material 4"  
b. Water Table Depth 22.96 d. Calculated System Volume (see back) .65

### 2. WELL PURGE DATA

a. Purge Method: PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%  
- pH  $\pm 1.0$  unit - ORP  $\pm 10$ mV  
- Sp. Cond. 3% - Drawdown  $< 0.3'$

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed (Gallons)	Temp. (°C)	pH	Spec. Cond. ( $\mu$ S/cm)	DO (mg/L)	ORP (mV)	Color/Odor	Comments
9:35		73.0	7.33	240				
9:40		73.1	7.25	195				
9:50	17	73.2	7.20	180				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

### 3. SAMPLE COLLECTION: Method: BAILER

Sample ID MW-6 Container Type VOAS No. of Containers 4 Preservation HCL Analysis Req. \_\_\_\_\_ Time 11:10

Comments \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_



Well ID: **MW- 8****Groundwater Sample Collection Record**

Client: AESIC Date: 9-6-04 Time: Start \_\_\_\_\_ am/pm  
Project No: 00068-005-100 Finish \_\_\_\_\_ am/pm  
Site Location: Former Cloudburst Car Wash - Santa Rosa  
Weather Conds: \_\_\_\_\_ Collector(s): \_\_\_\_\_

**1. WATER LEVEL DATA: (measured from Top of Casing)**

a. Total Well Length 32.71 c. Length of Water Column 12.7 (a-b) Casing Diameter/Material 4"  
b. Water Table Depth 20.01 d. Calculated System Volume (see back) 65

**2. WELL PURGE DATA**

a. Purge Method: PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%  
- pH  $\pm 1.0$  unit - ORP  $\pm 10$ mV  
- Sp. Cond. 3% - Drawdown  $< 0.3'$

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed (Gallons)	Temp. (°C)	pH	Spec. Cond. ( $\mu$ S/cm)	DO (mg/L)	ORP (mV)	Color/Odor	Comments
11:33		72.3	7.40	409				
11:39		72.8	7.15	340				
11:46	2.5	73.5	7.09	315				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

**3. SAMPLE COLLECTION: Method: BAILER**

Sample ID MW-8 Container Type VOAS No. of Containers 4 Preservation HCL Analysis Req. \_\_\_\_\_ Time 1:06

Comments \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Well ID: **MW-9**

## Groundwater Sample Collection Record

Client: AESIC Date: 9-6-04 Time: Start \_\_\_\_\_ am/pm  
Project No: 00068-005-100 Finish \_\_\_\_\_ am/pm  
Site Location: Former Cloudburst Car Wash - Santa Rosa  
Weather Conds: \_\_\_\_\_ Collector(s): \_\_\_\_\_

### 1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 34.52 c. Length of Water Column 11.4 (a-b) Casing Diameter/Material 2"  
b. Water Table Depth 23.10 d. Calculated System Volume (see back) 0.16

### 2. WELL PURGE DATA

a. Purge Method: PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	-D.O.	10%
- pH	$\pm 1.0$ unit	- ORP	$\pm 10$ mV
- Sp. Cond.	3%	- Drawdown	< 0.3'

c. Field Testing Equipment used: \_\_\_\_\_ Make \_\_\_\_\_ Model \_\_\_\_\_ Serial Number \_\_\_\_\_

Time (24hr)	Volume Removed (Gallons)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Color/Odor	Comments
9:24		73.5	72.9	250				
9:25		74.0	72.6	193				
9:26	5.4	74.8	73.0	180				

d. Acceptance criteria pass/fail

Has required volume been removed	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

### 3. SAMPLE COLLECTION: Method: BAILES

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-9</u>	<u>UCAS</u>	<u>HCL</u>	<u>4</u>		<u>9:30</u>

Comments \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

## Groundwater Sample Collection Record

Client: <u>AESIC</u>	Date: <u>9-6-04</u>	Time: Start _____ am/pm
Project No: <u>00068-005-100</u>		Finish _____ am/pm
Site Location: <u>Former Cloudburst Car Wash - Santa Rosa</u>		
Weather Conds: _____		Collector(s): _____

### 1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 37.58 c. Length of Water Column 14.2 (a-b) Casing Diameter/Material 2"  
b. Water Table Depth 23.35 d. Calculated System Volume (see back) .16

### 2. WELL PURGE DATA

a. Purge Method: PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	-D.O.	10%
- pH	$\pm 1.0$ unit	- ORP	$\pm 10$ mV
- Sp. Cond.	3%	- Drawdown	< 0.3'

c. Field Testing Equipment used: \_\_\_\_\_ Make \_\_\_\_\_ Model \_\_\_\_\_ Serial Number \_\_\_\_\_

Time (24hr)	Volume Removed (Gallons)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Color/Odor	Comments
11:20		74.5	7.50	316				
11:22		73.0	7.41	255				
11:23	6.8	72.5	7.35	246				

d. Acceptance criteria pass/fail

Has required volume been removed	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

### 3. SAMPLE COLLECTION: Method: BAILER

Sample ID <u>MW-10</u>	Container Type <u>WAS</u>	No. of Containers <u>4</u>	Preservation <u>HCL</u>	Analysis Req. _____	Time <u>11:25</u>
------------------------	---------------------------	----------------------------	-------------------------	---------------------	-------------------

Comments \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Well ID: **MW-11**

## Groundwater Sample Collection Record

Client: AESIC Date: 9-6-04 Time: Start \_\_\_\_\_ am/pm  
Project No: 00068-005-100 Finish \_\_\_\_\_ am/pm  
Site Location: Former Cloudburst Car Wash - Santa Rosa  
Weather Conds: \_\_\_\_\_ Collector(s): \_\_\_\_\_

### 1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 29.86 c. Length of Water Column 9.1 (a-b) Casing Diameter/Material 2"  
b. Water Table Depth 20.68 d. Calculated System Volume (see back) 616

### 2. WELL PURGE DATA

a. Purge Method: PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%  
- pH  $\pm 1.0$  unit - ORP  $\pm 10$ mV  
- Sp. Cond. 3% - Drawdown  $< 0.3'$

c. Field Testing Equipment used: \_\_\_\_\_ Make \_\_\_\_\_ Model \_\_\_\_\_ Serial Number \_\_\_\_\_

Time (24hr)	Volume Removed (Gallons)	Temp. (°C)	pH	Spec. Cond. ( $\mu$ S/cm)	DO (mg/L)	ORP (mV)	Color/Odor	Comments
9:11		70.2	7.34	405				
9:12		71.5	7.19	396				
9:13	4.4	72.8	7.05	370				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

### 3. SAMPLE COLLECTION: Method: BAILER

Sample ID MW-11 Container Type VOAS No. of Containers 4 Preservation HCL Analysis Req. \_\_\_\_\_ Time 9:17

Comments \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_



Client: AESIC Date: 9-6-04 Time: Start \_\_\_\_\_ am/pm  
Project No: 00068-005-100 Finish \_\_\_\_\_ am/pm  
Site Location: Former Cloudburst Car Wash - Santa Rosa  
Weather Conds: Collector(s):

- a. Total Well Length 31.63 c. Length of Water Column 11.29 (a-b) Casing Diameter/Material  
b. Water Table Depth 20.34 d. Calculated System Volume (see back) .16 2"

- a. Purge Method: PUMP

- |               |                |            |             |
|---------------|----------------|------------|-------------|
| - Temperature | 3%             | -D.O.      | 10%         |
| - pH          | $\pm 1.0$ unit | - ORP      | $\pm 10$ mV |
| - Sp. Cond.   | 3%             | - Drawdown | < 0.3'      |

- |   |             |              |                      |
|---|-------------|--------------|----------------------|
| <b>c. Field Testing Equipment used:</b> | <b>Make</b> | <b>Model</b> | <b>Serial Number</b> |
|---|-------------|--------------|----------------------|

[illegible]

- | d. Acceptance criteria pass/fail    | Yes                                 | No                       | N/A                      |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|
| Has required volume been removed    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized          | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| If no or N/A - Explain below.       |                                     |                          |                          |

3. SAMPLE COLLECTION: Method: BAILER

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-12	VOAS	4	HCL		9:02

Comments \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Well ID: **MW-13**

## Groundwater Sample Collection Record

Client: AESIC Date: 9-6-04 Time: Start \_\_\_\_\_ am/pm  
Project No: 00068-005-100 Finish \_\_\_\_\_ am/pm  
Site Location: Former Cloudburst Car Wash - Santa Rosa  
Weather Conds: \_\_\_\_\_ Collector(s): \_\_\_\_\_

### 1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 29.74 c. Length of Water Column 7.44 (a-b) Casing Diameter/Material 2"  
b. Water Table Depth 22.30 d. Calculated System Volume (see back) 0.16

### 2. WELL PURGE DATA

a. Purge Method: PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%  
- pH  $\pm 1.0$  unit - ORP  $\pm 10$ mV  
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used: Make Model Serial Number

Time (24hr)	Volume Removed (Gallons)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Color/Odor	Comments
10:03		72.3	7.26	250				
10:07		72.5	7.20	191				
10:10	35	73.1	7.17	188				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

### 3. SAMPLE COLLECTION: Method: BAILER

Sample ID MW-13 Container Type VOAS No. of Containers 4 Preservation HCL Analysis Req. \_\_\_\_\_ Time 10:15

Comments \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Well ID: **MW-14****Groundwater Sample Collection Record**

Client: AESIC Date: 9-6-04 Time: Start \_\_\_\_\_ am/pm  
Project No: 00068-005-100 Finish \_\_\_\_\_ am/pm  
Site Location: Former Cloudburst Car Wash - Santa Rosa  
Weather Conds: \_\_\_\_\_ Collector(s): \_\_\_\_\_

**1. WATER LEVEL DATA: (measured from Top of Casing)**

a. Total Well Length 29.14 c. Length of Water Column 6.3 (a-b) Casing Diameter/Material 2"  
b. Water Table Depth 22.78 d. Calculated System Volume (see back) 16

**2. WELL PURGE DATA**

a. Purge Method: PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%  
- pH  $\pm 1.0$  unit - ORP  $\pm 10$ mV  
- Sp. Cond. 3% - Drawdown  $< 0.3'$

c. Field Testing Equipment used: \_\_\_\_\_ Make \_\_\_\_\_ Model \_\_\_\_\_ Serial Number \_\_\_\_\_

Time (24hr)	Volume Removed (Gallons)	Temp. (°C)	pH	Spec. Cond. ( $\mu$ S/cm)	DO (mg/L)	ORP (mV)	Color/Odor	Comments
10:26		71.8	7.34	581				
10:28		72.0	7.26	473				
10:30	3.0	72.5	7.20	410				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

**3. SAMPLE COLLECTION: Method: BAILER**

Sample ID MW-14 Container Type VOAS No. of Containers 4 Preservation HCL Analysis Req. \_\_\_\_\_ Time 10:40

Comments \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

CLS - Labs

CHAIN OF CUSTODY

CLS ID No.;

LOG NO. WEB FORM

REPORT TO:			CLIENT JOB NUMBER			ANALYSIS REQUESTED			GEOTRACKER:				
NAME AND ADDRESS ENSR			00068-005.100						EDF REPORT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
10411 Old Placerville Road, Suite 210 Sacramento, CA 95827			DESTINATION LABORATORY						GLOBAL ID: T0609700668				
PROJECT MANAGER Jennifer Johnston (916) 288-4312			<input type="checkbox"/> CLS (916) 638-7301 3249 FITZGERALD RD. RANCHO CORDOVA, CA 95742						COMPOSITE:				
PROJECT NAME Former Cloudburst Car Wash			<input type="checkbox"/> OTHER						FIELD CONDITIONS:				
SAMPLED BY													
JOB DESCRIPTION 1322													
SITE LOCATION SANTA ROSA													
DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	TYPE	TPHg/BTEX (8015M)	5 fuel oxy (8260)	EDB, DCA (8260)	TURN AROUND TIME			SPECIAL INSTRUCTIONS	
9-6-05	1:20	MW-1	H <sub>2</sub> O	4	VOAS	HCL	X	X	1 DAY	2 DAY	5 DAY	10 DAY	OR ALT. ID:
	1:36	MW-2											
	11:10	MW-6											
	1:06	MW-8											
	9:30	MW-9											
	11:25	MW-10											
	9:17	MW-11											
	9:02	MW-12											
	10:15	MW-13											
✓	10:40	MW-14	✓	✓	✓	✓	✓	✓				✓	
SUSPECTED CONSTITUENTS						PRESERVATIVES:			INVOICE TO				
						(1) HCL (2) HNO <sub>3</sub>			(3) = COLD (4) = NaOH				
									(5) = H <sub>2</sub> SO <sub>4</sub> (6) = Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub>				
									(7) =				
RELINQUISHED BY (SIGN)		PRINT NAME / COMPANY		DATE / TIME		RECEIVED BY (SIGN)		PRINT NAME / COMPANY					
		EDGAR OLIVEIRA/DOULOS											
REC'D AT LAB BY:		DATE / TIME:		9-9-5		0920		CONDITIONS / COMMENTS:					
SHIPPED BY:		<input type="checkbox"/> FED X		<input type="checkbox"/> UPS		<input type="checkbox"/> OTHER		AIR BILL #					



## **APPENDIX 4**

### **GROUNDWATER MONITORING LABORATORY ANALYTICAL REPORT AND CHAIN OF CUSTODY DOCUMENTATION**

# CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

September 14, 2005

**CLS Work Order #: COI0289**  
**COC #: No Number**

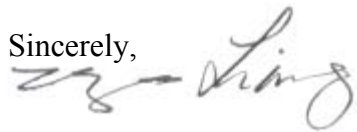
Jennifer Johnston  
ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

**Project Name: Former Cloud Burst Car Wash**

Enclosed are the results of analyses for samples received by the laboratory on 09/09/05 09:20. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

A handwritten signature in cursive script, appearing to read "James Liang".

James Liang, Ph.D.  
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

## CLS - Labs

## CHAIN OF CUSTODY

CLS ID No.; C10289

LOG NO. WEB FORM

REPORT TO:		CLIENT JOB NUMBER		ANALYSIS REQUESTED		GEOTRACKER:					
NAME AND ADDRESS ENSR		00068-005.100				EDF REPORT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
10411 Old Placerville Road, Suite 210 Sacramento, CA 95827		DESTINATION LABORATORY				GLOBAL ID: T0609700668					
PROJECT MANAGER Jennifer Johnston (916) 288-4312		CLP (916) 638-7301 3249 FITZGERALD RD. RANCHO CORDOVA, CA 95742		PRESERVATIVES		COMPOSITE:					
PROJECT NAME Former Cloudburst Car Wash		<input type="checkbox"/> OTHER		TPHg/BTEX (8015M)		FIELD CONDITIONS:					
SAMPLED BY				5 fuel oxy (8260)		TURN AROUND TIME					
JOB DESCRIPTION 1322				EDB, DCA (8260)		SPECIAL INSTRUCTIONS					
SITE LOCATION SANTA ROSA						OR					
DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	TYPE	1 DAY	2 DAY	5 DAY	10 DAY	ALT.	ID:
9-6-05	1:20	MW-1	H <sub>2</sub> O	4	VOAS	X	X	X	X		
	1:36	MW-3									
	11:10	MW-6									
	1:06	MW-8									
	9:30	MW-9									
	11:25	MW-10									
	9:17	MW-11									
	9:02	MW-12									
	10:15	MW-13									
✓	10:40	MW-14	✓	✓	✓	✓	✓	✓	✓		
SUSPECTED CONSTITUENTS											
PRESERVATIVES: (1) HCL (2) HNO <sub>3</sub> (3) = COLD (4) = NaOH (5) = H <sub>2</sub> SO <sub>4</sub> (6) = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (7) =											
RELINQUISHED BY (SIGN)		PRINT NAME / COMPANY		DATE / TIME		RECEIVED BY (SIGN)		PRINT NAME / COMPANY			
		EDGAR OLIVEKA/DOULOS									
REC'D AT LAB BY:											
DATE / TIME: 9-9-5 0920											
CONDITIONS / COMMENTS: 10°											
SHIPPED BY: <input type="checkbox"/> FED X <input type="checkbox"/> UPS <input type="checkbox"/> OTHER AIR BILL #											

# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston  
**CLS Work Order #: COI0289**

## Gas/BTEX by GC PID/FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (COI0289-01) Water    Sampled: 09/06/05 13:20    Received: 09/09/05 09:20</b>									
Gasoline	25000	1000	µg/L	20	CO06881	09/09/05	09/09/05	8015M/8021B	GC-25
Benzene	4400	100	"	200	"	"	09/12/05	"	
Toluene	140	10	"	20	"	"	09/09/05	"	
Ethylbenzene	2600	100	"	200	"	"	09/12/05	"	
Xylenes (total)	2000	20	"	20	"	"	09/09/05	"	
<i>Surrogate: o-Chlorotoluene (Gas)</i>									
		89.5 %	65-135		"	"	"	"	
<b>MW-3 (COI0289-02) Water    Sampled: 09/06/05 13:36    Received: 09/09/05 09:20</b>									
Gasoline	11000	1000	µg/L	20	CO06881	09/09/05	09/09/05	8015M/8021B	GC-25
Benzene	2400	100	"	200	"	"	09/12/05	"	
Toluene	57	10	"	20	"	"	09/09/05	"	
Ethylbenzene	750	100	"	200	"	"	09/12/05	"	
Xylenes (total)	990	20	"	20	"	"	09/09/05	"	
<i>Surrogate: o-Chlorotoluene (Gas)</i>									
		87.5 %	65-135		"	"	"	"	
<b>MW-6 (COI0289-03) Water    Sampled: 09/06/05 11:10    Received: 09/09/05 09:20</b>									
Gasoline	12000	1000	µg/L	20	CO06881	09/09/05	09/09/05	8015M/8021B	GC-25
Benzene	910	10	"	"	"	"	"	"	
Toluene	49	10	"	"	"	"	"	"	
Ethylbenzene	680	10	"	"	"	"	"	"	
Xylenes (total)	170	20	"	"	"	"	"	"	
<i>Surrogate: o-Chlorotoluene (Gas)</i>									
		87.5 %	65-135		"	"	"	"	
<b>MW-8 (COI0289-04) Water    Sampled: 09/06/05 13:06    Received: 09/09/05 09:20</b>									
Gasoline	5000	1000	µg/L	20	CO06881	09/09/05	09/12/05	8015M/8021B	GC-25
Benzene	710	10	"	"	"	"	"	"	
Toluene	30	0.50	"	1	"	"	09/09/05	"	
Ethylbenzene	130	10	"	20	"	"	09/12/05	"	
Xylenes (total)	33	1.0	"	1	"	"	09/09/05	"	
<i>Surrogate: o-Chlorotoluene (Gas)</i>									
		87.5 %	65-135		"	"	09/12/05	"	

CA DOHS ELAP Accreditation/Registration Number 1233

3249 Fitzgerald Road Rancho Cordova, CA 95742

www.californialab.com

916-638-7301

Fax: 916-638-4510

# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston  
**CLS Work Order #: COI0289**

## Gas/BTEX by GC PID/FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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### MW-9 (COI0289-05) Water Sampled: 09/06/05 09:30 Received: 09/09/05 09:20

Gasoline	ND	50	µg/L	1	CO06881	09/09/05	09/09/05	8015M/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Surrogate: o-Chlorotoluene (Gas) 90.0 % 65-135 " " " "

### MW-10 (COI0289-06) Water Sampled: 09/06/05 11:25 Received: 09/09/05 09:20

Gasoline	ND	50	µg/L	1	CO06882	09/09/05	09/09/05	8015M/8021B	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Surrogate: o-Chlorotoluene (Gas) 89.0 % 65-135 " " " "

### MW-11 (COI0289-07) Water Sampled: 09/06/05 09:17 Received: 09/09/05 09:20

<b>Gasoline</b>	<b>240</b>	50	µg/L	1	CO06882	09/09/05	09/09/05	8015M/8021B	GC-25
Benzene	ND	0.50	"	"	"	"	"	"	
<b>Toluene</b>	<b>6.2</b>	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Surrogate: o-Chlorotoluene (Gas) 89.5 % 65-135 " " " "

### MW-12 (COI0289-08) Water Sampled: 09/06/05 09:02 Received: 09/09/05 09:20

<b>Gasoline</b>	<b>6900</b>	500	µg/L	10	CO06882	09/09/05	09/09/05	8015M/8021B	GC-25
<b>Benzene</b>	<b>48</b>	5.0	"	"	"	"	"	"	
<b>Toluene</b>	<b>40</b>	5.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>370</b>	5.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>220</b>	10	"	"	"	"	"	"	

Surrogate: o-Chlorotoluene (Gas) 90.0 % 65-135 " " " "

# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston

**CLS Work Order #: COI0289**

## Gas/BTEX by GC PID/FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-13 (COI0289-09) Water    Sampled: 09/06/05 10:15    Received: 09/09/05 09:20</b>									
<b>Gasoline</b>	<b>9900</b>	500	µg/L	10	CO06882	09/09/05	09/09/05	8015M/8021B	GC-25
<b>Benzene</b>	<b>4700</b>	50	"	100	"	"	09/12/05	"	
<b>Toluene</b>	<b>47</b>	5.0	"	10	"	"	09/09/05	"	
<b>Ethylbenzene</b>	<b>430</b>	5.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>73</b>	10	"	"	"	"	"	"	

*Surrogate: o-Chlorotoluene (Gas)*                      88.0 %              65-135              "              "              "              "

### **MW-14 (COI0289-10) Water    Sampled: 09/06/05 10:40    Received: 09/09/05 09:20**

<b>Gasoline</b>	<b>21000</b>	500	µg/L	10	CO06882	09/09/05	09/09/05	8015M/8021B	GC-25
<b>Benzene</b>	<b>2800</b>	50	"	100	"	"	09/12/05	"	
<b>Toluene</b>	<b>410</b>	5.0	"	10	"	"	09/09/05	"	
<b>Ethylbenzene</b>	<b>1800</b>	50	"	100	"	"	09/12/05	"	
<b>Xylenes (total)</b>	<b>4500</b>	100	"	"	"	"	"	"	

*Surrogate: o-Chlorotoluene (Gas)*                      83.5 %              65-135              "              "              09/09/05              "

# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston

## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (COI0289-01) Water    Sampled: 09/06/05 13:20    Received: 09/09/05 09:20</b>									
Di-isopropyl ether	ND	5.0	µg/L	10	CO06872	09/12/05	09/12/05	EPA 8260B	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>280</b>	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

Surrogate: Toluene-d8	80.8 %	72-125	"	"	"	"
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**MW-3 (COI0289-02) Water    Sampled: 09/06/05 13:36    Received: 09/09/05 09:20**

Di-isopropyl ether	ND	0.50	µg/L	1	CO06872	09/12/05	09/12/05	EPA 8260B
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"
<b>Methyl tert-butyl ether</b>	<b>160</b>	0.50	"	"	"	"	"	"
<b>tert-Amyl methyl ether</b>	<b>7.6</b>	0.50	"	"	"	"	"	"
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"

Surrogate: Toluene-d8	77.8 %	72-125	"	"	"	"
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**MW-6 (COI0289-03) Water    Sampled: 09/06/05 11:10    Received: 09/09/05 09:20**

Di-isopropyl ether	ND	0.50	µg/L	1	CO06872	09/12/05	09/12/05	EPA 8260B
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"
<b>Methyl tert-butyl ether</b>	<b>82</b>	0.50	"	"	"	"	"	"
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"

Surrogate: Toluene-d8	81.2 %	72-125	"	"	"	"
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# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston

## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-8 (COI0289-04) Water</b>	<b>Sampled: 09/06/05 13:06</b>	<b>Received: 09/09/05 09:20</b>							
Di-isopropyl ether	ND	0.50	µg/L	1	CO06872	09/12/05	09/12/05	EPA 8260B	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>38</b>	0.50	"	"	"	"	"	"	
<b>tert-Amyl methyl ether</b>	<b>4.3</b>	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	

Surrogate: Toluene-d8	78.3 %	72-125	"	"	"	"
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**MW-9 (COI0289-05) Water    Sampled: 09/06/05 09:30    Received: 09/09/05 09:20**

Di-isopropyl ether	ND	0.50	µg/L	1	CO06872	09/12/05	09/12/05	EPA 8260B
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"
<b>Methyl tert-butyl ether</b>	<b>1.0</b>	0.50	"	"	"	"	"	"
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"

Surrogate: Toluene-d8	77.2 %	72-125	"	"	"	"
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**MW-10 (COI0289-06) Water    Sampled: 09/06/05 11:25    Received: 09/09/05 09:20**

Di-isopropyl ether	ND	0.50	µg/L	1	CO06872	09/12/05	09/12/05	EPA 8260B
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"

Surrogate: Toluene-d8	77.3 %	72-125	"	"	"	"
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# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston  
**CLS Work Order #: COI0289**

## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-11 (COI0289-07) Water Sampled: 09/06/05 09:17 Received: 09/09/05 09:20</b>									
Di-isopropyl ether	ND	0.50	µg/L	1	CO06872	09/12/05	09/12/05	EPA 8260B	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>3.8</b>	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	

Surrogate: Toluene-d8 80.4 % 72-125 " " " "

### MW-12 (COI0289-08) Water Sampled: 09/06/05 09:02 Received: 09/09/05 09:20

Di-isopropyl ether	ND	0.50	µg/L	1	CO06872	09/12/05	09/12/05	EPA 8260B	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	0.50	"	"	"	"	"	"	
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	

Surrogate: Toluene-d8 91.9 % 72-125 " " " "

### MW-13 (COI0289-09) Water Sampled: 09/06/05 10:15 Received: 09/09/05 09:20

Di-isopropyl ether	ND	10	µg/L	20	CO06872	09/12/05	09/12/05	EPA 8260B	
Ethyl tert-butyl ether	ND	10	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>1300</b>	10	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	10	"	"	"	"	"	"	
Tert-butyl alcohol	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	10	"	"	"	"	"	"	

Surrogate: Toluene-d8 77.8 % 72-125 " " " "

# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston

**CLS Work Order #: COI0289**

## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-14 (COI0289-10) Water</b>	<b>Sampled: 09/06/05 10:40</b>	<b>Received: 09/09/05 09:20</b>							
Di-isopropyl ether	ND	5.0	µg/L	10	CO06872	09/12/05	09/12/05	EPA 8260B	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
<b>Methyl tert-butyl ether</b>	<b>310</b>	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
Tert-butyl alcohol	ND	50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	

Surrogate: Toluene-d8

79.3 %

72-125

"

"

"

"

# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston

CLS Work Order #: COI0289

## Gas/BTEX by GC PID/FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch CO06881 - EPA 5030 Water GC

#### Blank (CO06881-BLK1)

Prepared & Analyzed: 09/09/05

Gasoline	ND	50	µg/L							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	1.0	"							
Surrogate: o-Chlorotoluene (BTEX)	21.2		"	20.0		106	65-135			
Surrogate: o-Chlorotoluene (Gas)	16.9		"	20.0		84.5	65-135			

#### LCS (CO06881-BS1)

Prepared & Analyzed: 09/09/05

Gasoline	471	50	µg/L	500		94.2	65-135			
Surrogate: o-Chlorotoluene (Gas)	19.6		"	20.0		98.0	65-135			

#### LCS Dup (CO06881-BS1)

Prepared & Analyzed: 09/09/05

Gasoline	544	50	µg/L	500		109	65-135	14.4	30	
Surrogate: o-Chlorotoluene (Gas)	19.6		"	20.0		98.0	65-135			

#### Matrix Spike (CO06881-MS1)

Source: COI0289-05

Prepared & Analyzed: 09/09/05

Gasoline	464	50	µg/L	500	ND	92.8	65-135			
Surrogate: o-Chlorotoluene (Gas)	19.6		"	20.0		98.0	65-135			

#### Matrix Spike Dup (CO06881-MS1)

Source: COI0289-05

Prepared & Analyzed: 09/09/05

Gasoline	487	50	µg/L	500	ND	97.4	65-135	4.84	30	
Surrogate: o-Chlorotoluene (Gas)	20.1		"	20.0		100	65-135			

### Batch CO06882 - EPA 5030 Water GC

#### Blank (CO06882-BLK1)

Prepared & Analyzed: 09/09/05

Gasoline	ND	50	µg/L							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	1.0	"							

CA DOHS ELAP Accreditation/Registration Number 1233

3249 Fitzgerald Road Rancho Cordova, CA 95742

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# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston

CLS Work Order #: COI0289

## Gas/BTEX by GC PID/FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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### Batch CO06882 - EPA 5030 Water GC

#### Blank (CO06882-BLK1)

Prepared & Analyzed: 09/09/05

Surrogate: o-Chlorotoluene (BTEX)	21.5		µg/L	20.0		108	65-135			
Surrogate: o-Chlorotoluene (Gas)	17.2		"	20.0		86.0	65-135			

#### LCS (CO06882-BS1)

Prepared & Analyzed: 09/09/05

Benzene	25.3	0.50	µg/L	20.0		126	70-140			
Toluene	21.9	0.50	"	20.0		110	70-140			
Ethylbenzene	22.4	0.50	"	20.0		112	70-140			
Xylenes (total)	72.1	1.0	"	60.0		120	70-140			
Surrogate: o-Chlorotoluene (BTEX)	20.0		"	20.0		100	65-135			

#### LCS Dup (CO06882-BSD1)

Prepared & Analyzed: 09/09/05

Benzene	24.8	0.50	µg/L	20.0		124	70-140	2.00	30	
Toluene	21.1	0.50	"	20.0		106	70-140	3.72	30	
Ethylbenzene	21.7	0.50	"	20.0		108	70-140	3.17	30	
Xylenes (total)	70.6	1.0	"	60.0		118	70-140	2.10	30	
Surrogate: o-Chlorotoluene (BTEX)	20.8		"	20.0		104	65-135			

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# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento  
10411 Old Placerville Rd., Suite 210  
Sacramento, CA 95827-2508

Project: Former Cloud Burst Car Wash  
Project Number: 00068-005.100  
Project Manager: Jennifer Johnston

CLS Work Order #: COI0289

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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### Batch CO06872 - EPA 5030 Water MS

#### Blank (CO06872-BLK1)

Prepared & Analyzed: 09/12/05

Naphthalene	ND	0.50	µg/L
Di-isopropyl ether	ND	0.50	"
Ethyl tert-butyl ether	ND	0.50	"
Methyl tert-butyl ether	ND	0.50	"
tert-Amyl methyl ether	ND	0.50	"
Tert-butyl alcohol	ND	5.0	"
Benzene	ND	0.50	"
Toluene	ND	0.50	"
Ethylbenzene	ND	0.50	"
Xylenes (total)	ND	1.0	"

Surrogate: Toluene-d8 8.05 " 10.0 80.5 72-125

#### LCS (CO06872-BS1)

Prepared & Analyzed: 09/12/05

Methyl tert-butyl ether	17.7	0.50	µg/L	20.0	88.5	52-130
Surrogate: Toluene-d8	10.7	"	10.0		107	72-125

#### LCS Dup (CO06872-BSD1)

Prepared & Analyzed: 09/12/05

Methyl tert-butyl ether	18.2	0.50	µg/L	20.0	91.0	52-130	2.79	30
Surrogate: Toluene-d8	9.55	"		10.0	95.5	72-125		

# CALIFORNIA LABORATORY SERVICES

09/14/05 14:17

ENSR - Sacramento 10411 Old Placerville Rd., Suite 210 Sacramento, CA 95827-2508	Project: Former Cloud Burst Car Wash Project Number: 00068-005.100 Project Manager: Jennifer Johnston	<b>CLS Work Order #: COI0289</b>
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## Notes and Definitions

GC-25	Weathered gasoline.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference